PRINTING EQUIPMENT *Engineer*

An Industry-wide Technical Publication

PLEASE ROUTE THIS COPY TO

Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.

For filing, please return to

October 1953

BEST FOR THE BIGGEST...THE SMALLEST

*...and all in between!

Yes, the Star Quadder will serve you profitably and faithfully, whether yours is a large or small shop, or anywhere in between. Available now with hydraulic actuation for any 30 pica model Linotype or Intertype . . . Can be applied with or without Mohr Saw. It's the best answer for all quadding – on large display work, classified composition, or any of the many kinds of work in newspaper and job plants. Comments like these prove it!

". . . We have four STAR Quadders. I wouldn't trade my STAR Quadders for any other make."

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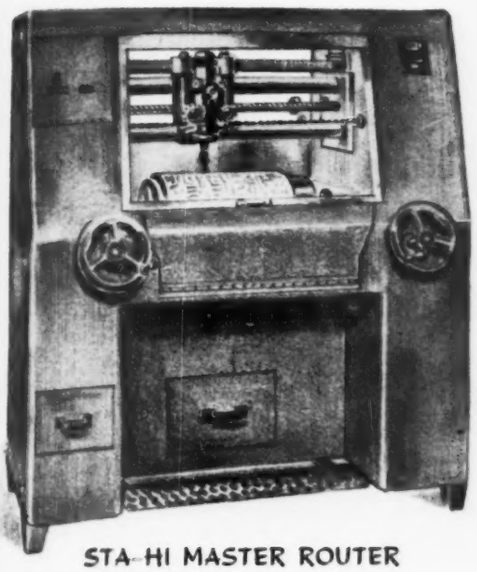
FOR CURVED PLATE ROUTING



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- Plate-making craftsmen the world over, as indicated below in a list of very recent installations, prefer the Master Router because:
- It's fast, accurate, safe, silent . . . easy to operate, easy on the operator's eyes . . . and easy on the production and maintenance budget, too!
- The Master Router is the only curved plate router offering you Sta-Hi's exclusive Automatic "Stripper" and Double Page Matching Attachment . . . Also available are the Air Jet Chip Remover and the Dual Cylinder for routing plates of two different sizes.
- No wonder Master Routers are fast replacing slow, cumbersome, old-fashioned machinery! Write today for complete details on this new, modern, engineered equipment for routing curved plates . . .

Cheyenne, Wyo., *Eagle and Tribune* • Cleveland, Ohio, *Press and Plate* • Columbia, S. C., *State* • Corpus Christi, Tex., *Caller-Times* • Dallas, Tex., *News* (3rd machine) • Dayton, Ohio, *Daily News* • Denver, Colo., *Post* (2 machines) • Dedham, Mass., *Transcript Press* • Des Moines, Ia., *Register-Tribune* • Detroit, Mich., *American Publishing Co.* (2 machines) • Elizabeth, N. J., *Journal* • Elkhart, Ind., *Truth* • Fairbanks, Alaska, *News-Miner* • Harrisburg, Pa., *Patriot-News* • Honolulu, Hawaii, *Star-Bulletin* (2nd machine) • Jacksonville, Fla., *Times-Union* • Joplin, Mo., *Globe* • Kansas City, Mo., *Continental Color Press* • Lake Charles, La., *American Press* • London, Ont., *Free Press* • Los Angeles, Calif., *Rodgers & McDonald* • Los Angeles, Calif., *Times* (4th machine) • Miami, Fla., *Herald* (2nd and 3rd machines) • Norfolk, Va., *Ledger-Dispatch* • Omaha, Neb., *World-Herald* • Orlando, Fla., *Sentinel-Star* • Pensacola, Fla., *News-Journal* • Pittsburgh, Pa., *Press* • Porto Alegre, Brazil, *Ultima Hora* • Richmond, Va., *News-Leader and Times-Dispatch* • Rocky Mount, N. C., *Telegram* • St. Catharines, Ont., *Standard* • Stamford, Conn., *City Newsprinting Corp.* • Stratford, Ont., *Beacon-News* • Singapore, British Malaya, *Tiger Standard* • Sioux Falls, S. D., *Argus-Leader* • Toronto, Ont., *Telegram* • Tokyo, Japan, *Mainichi Press* • Youngstown, Ohio, *Vindicator* • Zurich, Switzerland, *Chromos Ltd.*

STA-HI CORPORATION

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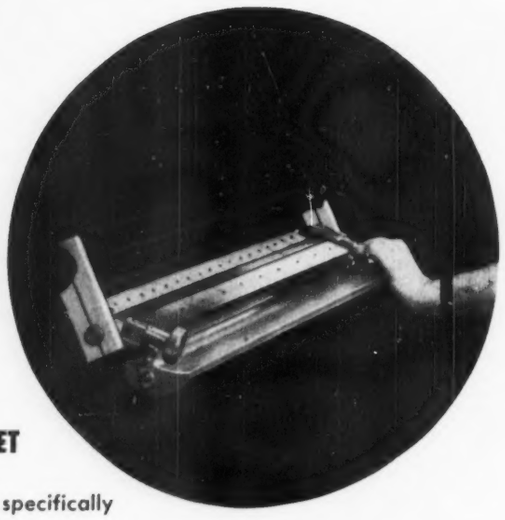
STA-HI

SAVE "WASH-UP" TIME WITH

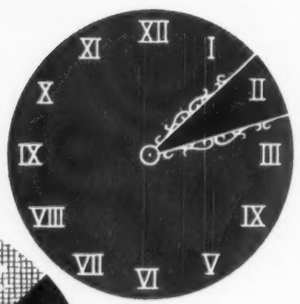
BALDWIN

PRESS WASHERS



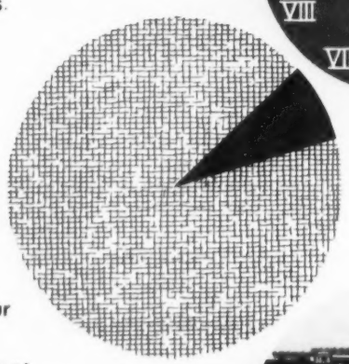
FOR ROTARY LETTER PRESS OR OFFSET

Baldwin Press Washers are specifically engineered to clean ink rollers *automatically* on almost all models of presses. Cottrell, McKee, Mann, Claybourne, Kidder, Hoe, ATF, EBCO, Harris Offset and Letter Press, Miehle Offset and Letter Press models have been equipped with Baldwin Press Washers.



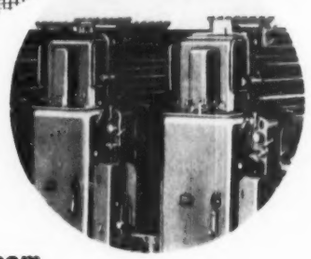
SHRINK YOUR WASH-UP TIME

A good solvent on the rollers, a few turns of just two thumbscrews, and your Baldwin does the rest . . . quickly! An easily cleaned ink pan collects the ink.



SAVE 90% OF YOUR RAG EXPENDITURES

From the day you install your Baldwin Press Washers you eliminate 90% of your present rag purchases, you are finished forever with messy, inefficient hand-cleaning.



SAVE ROLLER READJUSTMENT

Ink rollers stay *in* your presses and your Baldwin Washer has them ready for the next job quickly and efficiently. Color changes even from black to yellow are easy with a Baldwin.

Prove these statements in your own press room. BALDWIN PRESS WASHERS are sold on a 30-day free trial basis. WRITE TODAY TO:

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Printing Press Engineering

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STAMFORD ADVOCATE
STAMFORD, CONNECTICUT

OFFICE OF THE PUBLISHER
August 7, 1953

Mr. David J. Scott, President
Walter Scott and Co., Inc.
Plainfield, New Jersey

Dear Mr. Scott:

The Stamford Advocate chose a mezzanine-type Scott Metropolitan Press for two reasons:

First, because it was the only press which would fit into our one story building and still retain the advantages of underfeed.

Second, because we decided that with a Scott Press you get most in performance per dollar expended.

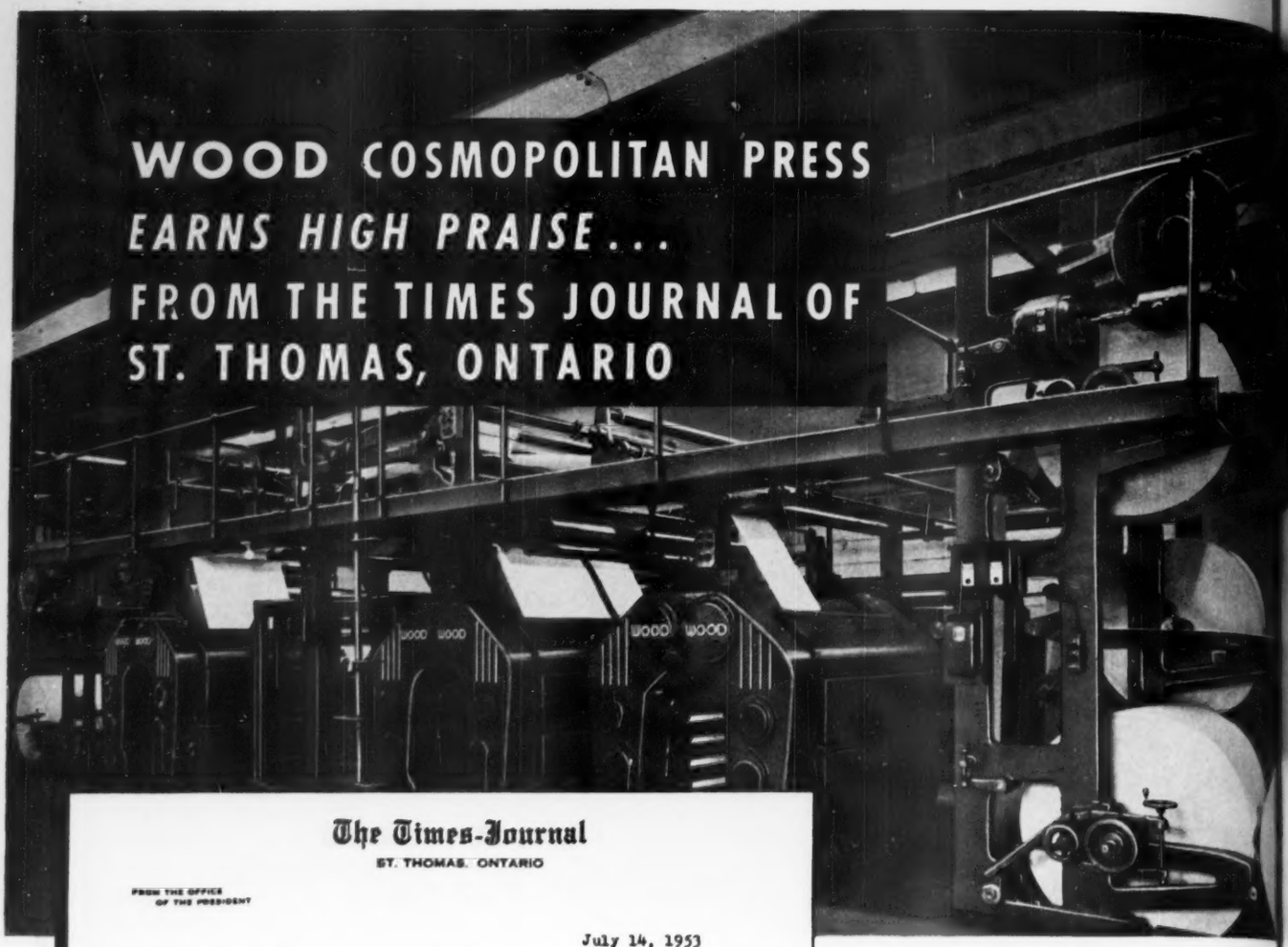
We have been operating this Four-Unit Press for eight months and are very happy that we decided on a Scott.

Sincerely,

Stamford Advocate

Publisher

WOOD COSMOPOLITAN PRESS *EARNS HIGH PRAISE...* FROM THE TIMES JOURNAL OF ST. THOMAS, ONTARIO



The Times-Journal
ST. THOMAS, ONTARIO

FROM THE OFFICE OF THE PRESIDENT

July 14, 1953

Mr. I. Tornberg, Vice-President
Wood Newspaper Machinery Corporation
501 Fifth Avenue
New York 17, N. Y.

Dear Torn:

We have now run our new Wood 40-page Cosmopolitan Press for a period of nine months; it has been a most satisfactory experience.

We have produced everything from a two-page dodger to a 40-page paper, smoothly and efficiently. Our pressmen are happy to have such a machine to handle.

The Intrasertor, which gives us two-page jumps has worked beautifully - we use it on an average of twelve times a month and our men look on its use as an ordinary procedure. The saving from the former 4-page jumps is considerable both in the composing room and in newsprint consumption.

We are now using 40-inch rolls instead of 36-inch which give us longer runs between changes.

The handsome press was the centre of great interest during the 'Open House' when some 2,000 people visited our new plant.

With kindest personal regards,

Yours sincerely,

Geo. M. Dingman

George M. Dingman

GMD:BG

See what the St. Thomas, Ont. TIMES-JOURN says about the WOOD Cosmopolitan Press w Intraserter! Here's high praise from one Canada's busiest and fast-growing newspapers offers substantial proof of the worth of this depe able pressroom machinery.

Similar reports from satisfied users points the to the faster and better printing of small and dium size newspapers on the Cosmopolitan pr Provisions are available for R.O.P. color prin and, by means of the WOOD Intraserter, two-p jumps on collect runs provide utmost flexibi Send for information on COSMOPOLITAN.

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY

SALES OFFICE: 501 FIFTH AVENUE, NEW YORK

PRINTING EQUIPMENT *Engineer*

OCTOBER 1953

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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PRINTING EQUIPMENT *Engineer*, Published monthly at 1276 West Third St., Cleveland 13, Ohio.
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Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issue $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. Currency). Subscription in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment *Engineer* under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation CCA Controlled Audit

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Stereo Matrix Backingup Table and Storage Cabinet — American Publishers Supply, Inc., announces development of a Stereotype Matrix Backingup Table and Storage Cabinet. As will be seen by referring to the illustration, the design of the equipment is such that all packing operations may be completed without leaving the table. The top Masonite working surface is 26 in. by 30 in. There are three storage bins and five receptacles on top for five packages of packing felt. Room is provided for two moisteners. Floor space required is 36 in. by 30 in., and overall height is 40 in. Net weigh. 140 lbs. Further information will be sent by mentioning PEE No. 769 in your request.

Flooring Resists Oil and Grease

DEVELOPMENT of an oil and grease resistant flooring called Sylox has been announced by United Laboratories, Inc. The product is a type of oxychloride cement, said to be highly resistant to absorption of oil, grease, fats and solvents of many kinds. Each unit is proportioned and packaged at the factory and is designed to cover a pre-determined area at an average depth of ½ in. The product has varied uses in industrial plants where oil and grease present a problem. Sylox may be applied over old surfaces of concrete or wood and is available in a choice of several colors. Full information will be sent upon request. Please mention PEE No. 767 in your request.

Hanger for Vertical Filing of Plates and Negatives

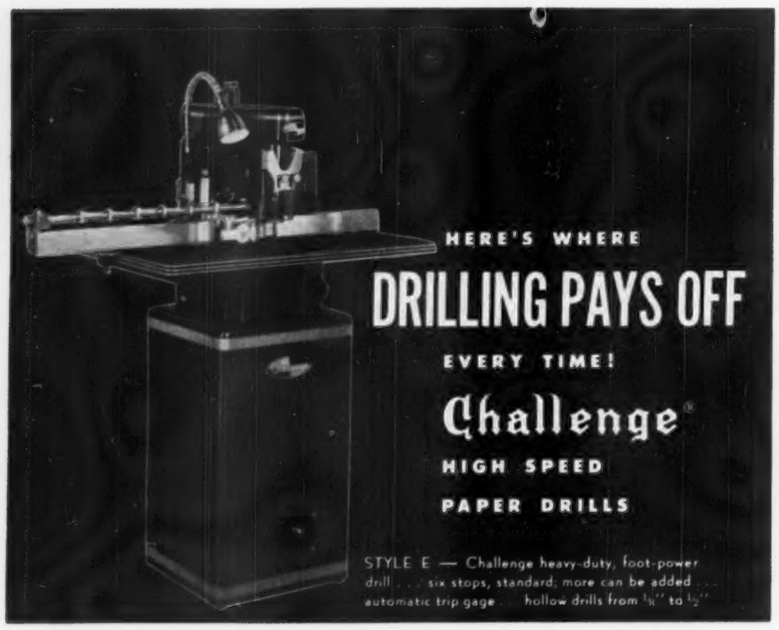
A HANGER arrangement for filing up to 10 in. offset plates and negatives has been reported by Atlas Stencil Files Corp. Designed to protect the material from being scratched or defaced,

each hanger is provided with two heavy-duty envelopes attached. To facilitate identification, one is marked *Contents* with four lines for writing in the description of the plate, and the other envelope is similarly marked with *Negative*. Each envelope is 10½ in. by 16 in. They may also be used for filing art work, swatches, etc. The hanger unit is known as the Nega-Plate Hanger. They are designed to fit Atlas filing cabinets which will hold from 200 to 600 hangers, depending upon the cabinet model. Further details may be obtained by mentioning PEE No. 730 in your request.

Dom Bold Joins Family

ANOTHER member of the "hand lettered" Dom type family is announced by American Type Founders. Called Dom Bold, it is similar to Dom Casual and Dom Diagonal in general style, but its lines are broader. Dom Bold looks as if it were drawn with a thicker brush than the other two Dom type faces. Dom Bold has the same feel-

(Continued on Page 10)


HERE'S WHERE
DRILLING PAYS OFF
EVERY TIME!
Challenge
HIGH SPEED
PAPER DRILLS
STYLE E — Challenge heavy-duty, foot-power drill . . . six stops, standard; more can be added . . . automatic trip gage . . . hollow drills from ⅛" to ½"

Drilling for oil is often a gamble — but with paper drilling it's a sure thing. You can profit on *every* job, and you get *more* jobs because of your expanded service.

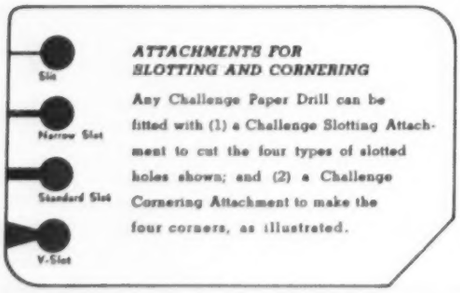
No need to farm out round-hole drilling, slotting and cornering jobs when you have a Challenge Paper Drill in the shop. Choose from nine models — hand, foot or hydraulic operated — and get your share of profitable loose leaf work and novelty jobs.

And if it's a Challenge, you know it's precision-built for fast, easy operation and long, dependable service. Send for full details.

THE CHALLENGE MACHINERY COMPANY

Office, Factories and Show Room:
GRAND HAVEN, MICH.

Over 50 Years in Service of The Graphic Arts



ATTACHMENTS FOR SLOTTING AND CORNERING

Any Challenge Paper Drill can be fitted with (1) a Challenge Slotting Attachment to cut the four types of slotted holes shown; and (2) a Challenge Cornering Attachment to make the four corners, as illustrated.

Challenge
TRADE-MARK ®

DEALERS IN ALL PRINCIPAL CITIES

735

"Some Reasons Why Printers Prefer Ludlow"

That's the title of the big, new 32-page booklet we have just completed. It outlines in detail some outstanding Ludlow advantages and operating economies which you should know about.

This new booklet graphically illustrates and describes the way in which the Ludlow helps to solve such printing plant problems as type shortages, type breakage, scarcity of spacing material, excessive press make-ready, press work-ups, congested floor space, multiple forms, and ruleform composition—to mention just a few.

As you go through this booklet you will realize some of the reasons why so many progressive printing and publishing firms, specialty printers and others have discarded the old, time-honored typesetting methods and have changed to the improved Ludlow system of all-slug display and job composition.

Send for your free copy of this new 32-page booklet—it will give you a better understanding of Ludlow's contribution to efficient composing room production. It is real information for you.

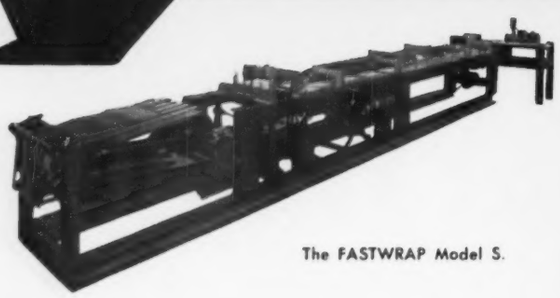
LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Tempo family

26 TIMES FASTER than HAND-WRAPPING

...the High-Speed Magnacraft Way



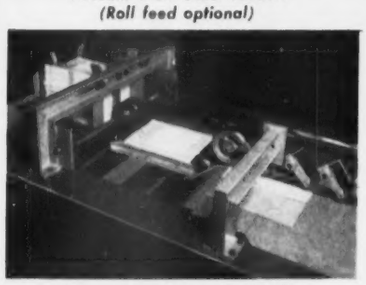
The FASTWRAP Model S.

FLAT-WRAP FOLD-WRAP BAND-WRAP

Time saved is money earned. Magnacraft's FAST-WRAP saves T-I-M-E. It is 26 times faster than hand wrapping . . . a fact established by many actual tests. That's tremendous saving over old fashioned methods. And what's more, your magazines are wrapped tighter, better, and more attractively than ever before. If you are not wrapping now, for just a fraction of a cent more for each issue you can send out a neatly wrapped magazine. Get the full facts about the FASTWRAP . . . find out for yourself how this modern machine can cut YOUR costs . . . reduce your mailing time . . . and spur the efficiency of your mailing room. Write us today.

Magnacraft MFG. CO.
3138 West Chicago Ave. Chicago 22, Ill.

Vacuum drum sheet feeder. (Roll feed optional)



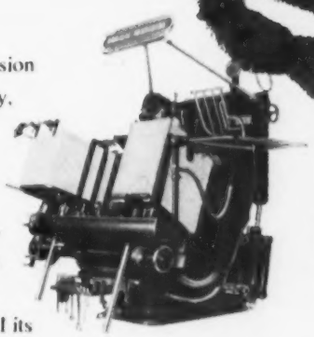
Hopper type magazine feeder for continuous loading.

Folding flares easily adjusted for any size magazine.

MANUFACTURERS OF HIGH-SPEED PERIODICAL WRAPPING MACHINES

A perfect kiss at the twist of a wrist...

Exclusive Heidelberg "Flick-O-Wrist" Impression Control adjusts automatically, even while press is running . . . gives perfect, split-second adjustment every time. Test Heidelberg kiss impression yourself. Action-test all its features right at your door. A demonstration won't cost you a cent . . . write today.



ORIGINAL HEIDELBERG

Distributors of Heidelberg Automatic Presses

HEIDELBERG SOUTHERN SALES CO.
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HEIDELBERG EASTERN SALES CO.
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227 North 3rd St., Columbus 15, Ohio

Equipment & Supplies

(Continued from Page 6)

ing of individuality possessed by Dom Casual, which was introduced by ATF about two years ago. No legibility is sacrificed in the free and easy hand lettered look of the Dom type faces.

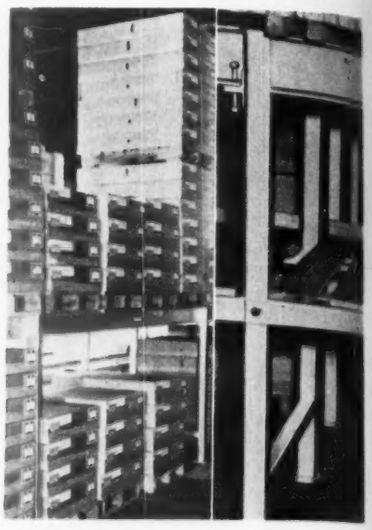
These types, exclusively designed for ATF, are the work of Peter Dom, New York hand letterer. Fonts are ready in 18 pt., 24 pt., 30 pt., 36 pt., 48 pt., 60 pt., and 72 pt. sizes. Complete information will be furnished; please mention PEE No. 756 in your request.

Dressed Up in New Color—A new flame red color now features Justrite Safety Cans in all sizes, it was announced by the Justrite Mfg. Co. Justrite makes safety cans, oily waste cans, portable electric lights, hand lanterns and other safety products. Factors in the selection of the new color were instant identification, high visibility and sharp contrast to eliminate confusion between regular fire fighting equipment and the Justrite cans which, in most cases, are used for inflammable liquids. The flame red color complies with the new Safety Color Code developed to provide instant identification of safety equipment and safety hazards. Its adoption has been suggested for several years by Safety Engineering groups and sections of the Bureau of Mines.

Further information may be obtained by mentioning PEE No. 755 in your request.

Paper Stock Racks

A STEEL rack designed for stacking skids, cases, cartons and reams of paper has been announced by Equipment Manufacturing, Inc. Horizontal top members of the rack are channels which bolt to welded square



tubular steel end frames. Bolt holes are provided in the end frames at an intermediate level to allow for the insallation of a shelf. Sponsor states this provides economical use of space without placing excessive weight on unboxed paper and doubles the capacity of the rack operations where smaller quantities of a large assortment are carried.

Standard racks are designed for handling up to 22½ in. by 35 in. sheets. Special size racks are also available. Provisions for slat flooring can be made where it is desired to stack unsupported stock of small sheets. Racks are provided with floor plates for distributing the weight or bolting down if desired. Please refer to PEE No. 780 if more details are needed.

Electronic Controls Booklet

APPLICATIONS of electronic and photoelectric controls in different industries are discussed in an 80 page booklet recently released by Photoswitch, Incorporated. Entitled *Cutting Production Costs with Electronic Controls*, there are sections of the booklet which deal with use of the controls in printing, operations involving paper, materials handling and automatic machinery. Applications are described in the form of case studies. Some of these of interest to the Graphic Arts are alignment for photographic reproduction, counting, cutting of labels, edge position control, envelope and packaging machines. Diagrams show-

(Continued on Page 16)

Imperial

meets the *First* demand

"*Clean Etching*"

for Photoengraving Zinc

A short time ago we asked 137 individuals* to name the most desirable quality they expect in photoengraving zinc. 59 of these individuals immediately specified, "*clean etching.*"

And that's exactly what Imperial zinc delivers to you—a zinc that etches clean and fast without dirty bottoms.

With Imperial your etcher is assured of fast, smooth etching and clean bottoms on line cuts as well as halftones. For close register color work, the elimination of objectionable stretch and the ability to take re-etching are outstanding, additional characteristics.

Why not order a case of Imperial zinc today? You'll find there *is* a difference

*THEY ASKED FOR:

CLEAN ETCHING

SMOOTH FINISH

NON-BUCKLING

UNIFORM GRAIN

EASY ROUTING

MINIMUM STRETCH

IMPERIAL ZINC HAS 'EM ALL

Imperial TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

Engraved on Imperial Zinc

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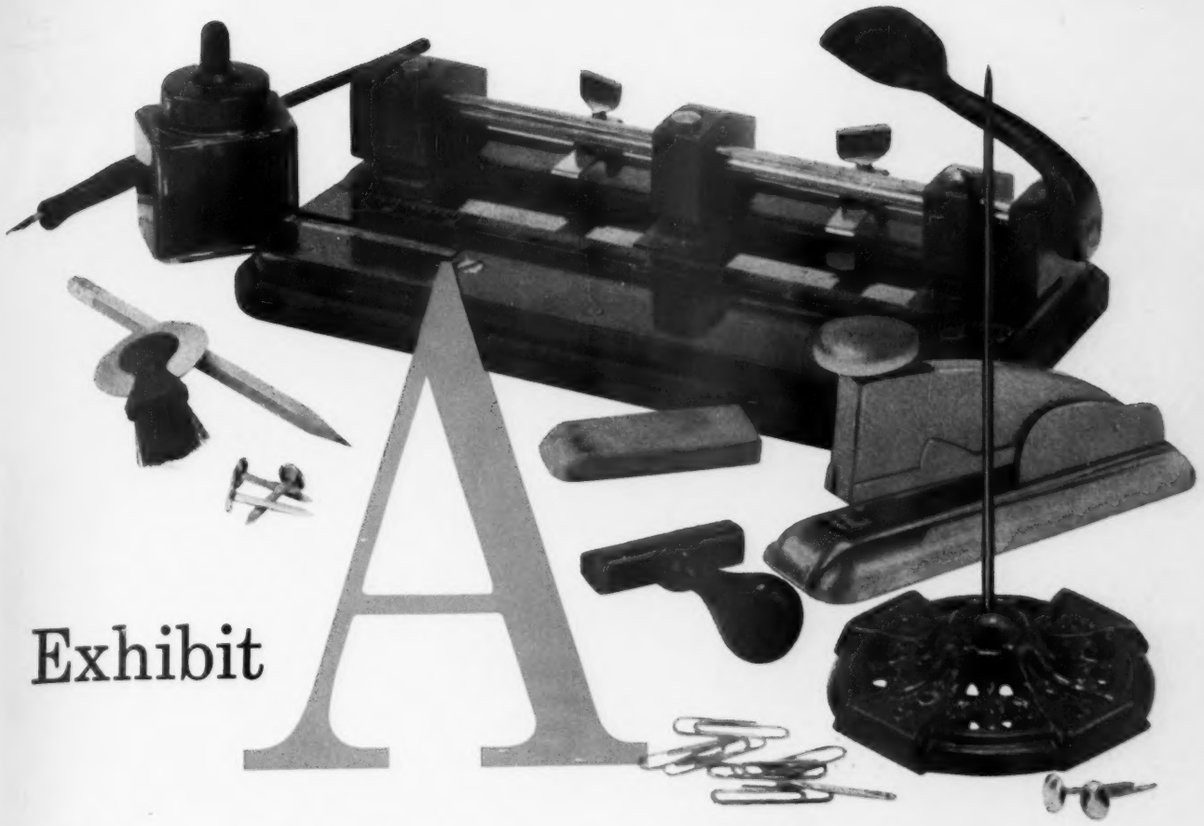

Exhibit A

in the case for careful selection of paper for business forms

A raid on any business office will net a similar collection of weapons deadly to the business form. Forms are punched, stapled, clipped, erased, initialed, stepped-on, pierced and filed. And yet, they're supposed to provide a record of proceedings—sometimes permanently.

Run MAXWELL BOND. No other paper we know of offers greater resistance to constant and repeated handling . . . at a cost that fits the budget for these supplies.

That, in itself is certainly desirable. But paper for forms should *print* with clarity. It should be compatible with pen, pencil, typewriter and eraser. It should offer a variety of distinctive colors. MAXWELL BOND? It does all this . . . so well, in fact, we've watermarked it to insure proper identification! Try it.

We'd be pleased to show you samples of MAXWELL BOND'S six colors, four weights and six finishes. Just send your letterhead.

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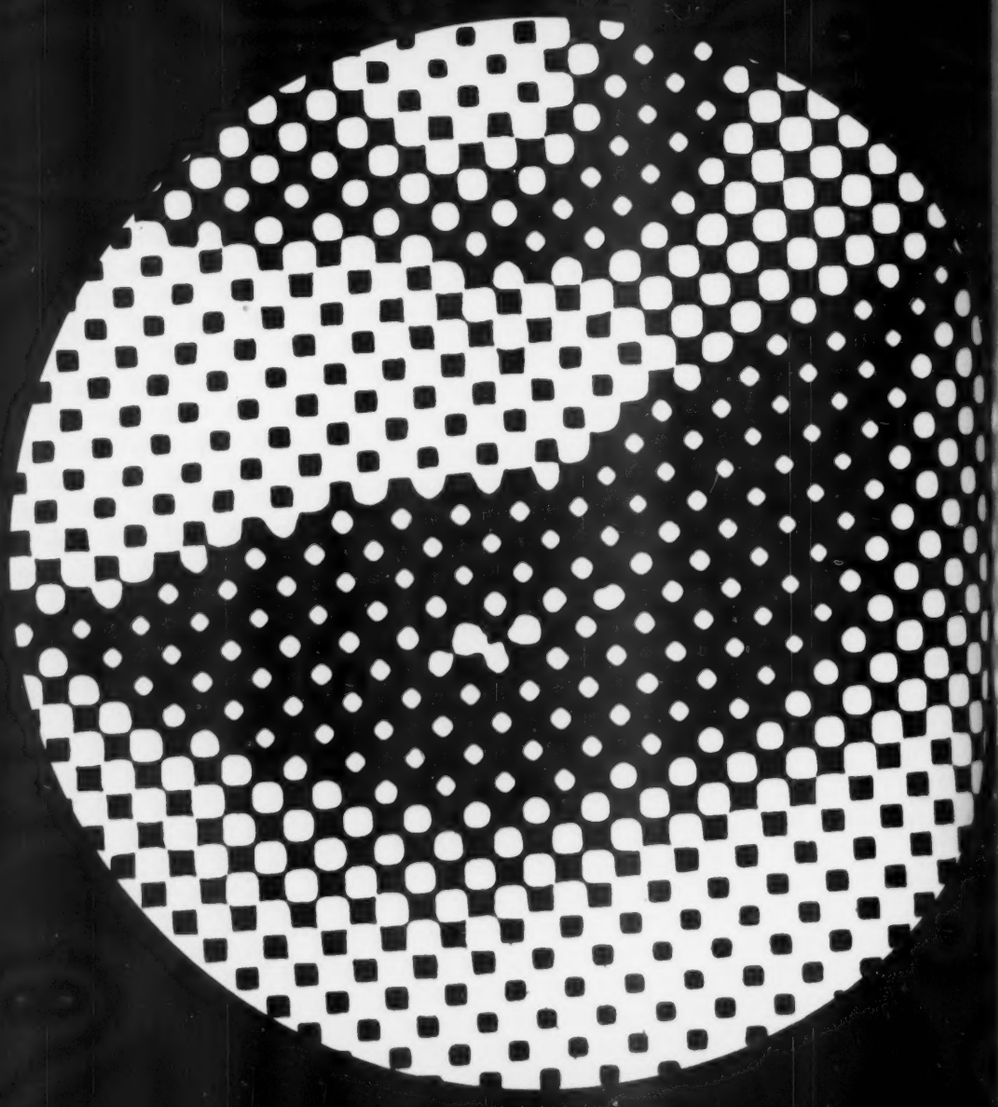
HOWARD PAPER MILLS, INC. • MAXWELL PAPER COMPANY DIVISION • FRANKLIN, OHIO

HERE'S HOW



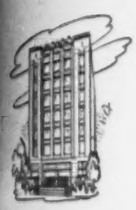
WE SEE HER

IPI lab technicians study enlarged half-tone dots for better quality control of inks

The IPI ink expert gets a microscopic close-up of exactly how printing ink lays on the page when he examines half-tone dot patterns blown up more than 20 diameters.

By studying photomicrographs of an ink specimen (see enlargement at left) he is able to catch any existing defects in the ink that might go undetected under an ordinary linen glass. In this way IPI inks are kept constantly free of the many faults that often give headaches to printers.

This is another example of how IPI research teams up with quality control to produce inks that print sharper, cleaner, with brighter color strength and maximum coverage.



IPI research at work for you

IPI offers the broadest research program in the graphic arts. Scientist and technician, engineer and mechanic work together with the finest modern equipment in Interchemical's nine-story research lab. These experts have contributed immeasurably to today's high-speed magazine printing . . . better inks for lithography and flexography. . . new techniques that have revolutionized ink making.

You can rely on IPI to solve your printing ink problems. We invite you to call us for consultation.

IPI and IC are trademarks of Interchemical Corporation

INTERCHEMICAL CORPORATION

Printing Ink Division • *67 West 44th Street, New York 36, New York*

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

REVOLUTIONARY!

At Last a True Non-Glaze Litho-Roller for Quick-Set, *Fast-Dry* Inks!

Rapid research has done it again! Here is the lithographic roller the industry has wanted and needed for a long time! A roller specially designed to handle fast drying and quick-set lithographic inks without glazing or hardening on the rollers. Now for the first time you can be sure of bringing ink down from the fountain to the form rollers in unchanged condition . . . full strength, full color, in an even flow. And the danger of surface breakdown or pitting, as a result of glazing, has been eliminated once and for all. Why not have your Rapid salesman call on you right away with full details?

RAPID ROLLER CO.
Federal at 26th St. CHICAGO 16

MERCURY
BLUE STREAK
LITHOGRAPH ROLLERS

Pressmen on three papers say—

SCAN-A-GRAVINGS Save Time In The Pressroom ... Deliver High-Quality Reproduction, Too

At the Greeneville (Tenn.) Sun—"In many ways Fairchild Scan-a-gravings have made life simpler in the back shop," says J. C. Johnson, pressman at the Greeneville (Tenn.) Sun. "For instance, we used to roll two mats and cast two plates of a page when there was a slight difference in illustration copy. Now we roll one mat, cast one plate with a blank base for the picture, and merely change the Scan-a-gravings."

At the Moline (Ill.) Daily Dispatch—"Forms no longer wait in the stereo room for cuts because we mount Scan-a-gravings on the plates and print direct," says Otto Kurrle (left), pressroom and stereo department foreman, and Earl Johnson (right), composing room chief. These men save plenty of time by combining the use of Scan-a-gravings with a double plating operation.

It's time to learn what the Fairchild Scan-a-graver can do for your paper. That is the meaning behind the interest expressed in plastic Scan-a-gravings in back shops all over the country.

In addition to speeding work in the mechanical department, low-cost Scan-a-gravings printed direct give you some of the finest reproduction on newsprint that is possible.

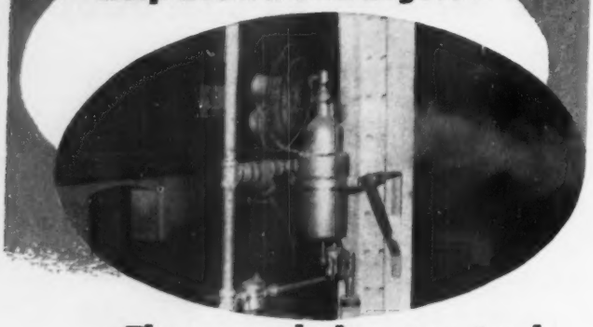
Write today for complete information. Fairchild Camera and Instrument Corporation, Robbins Lane, Syosset, New York, Department 100-63 E.

At the Vicksburg (Miss.) Post-Herald—C. T. Beasley (left, above), pressroom foreman at the Post-Herald says "Printing Scan-a-gravings direct is simple and gives good quality reproduction. We have run lots of Scan-a-gravings up to 220,000 impressions without showing signs of wear. It's a good feeling to know that these plastic engravings make our work easier, and give us a paper with real high-quality illustrations in it."

FAIRCHILD

SCAN-A-GRAVER

ARMSTRONG STEAM HUMIDIFIERS
help Brown and Bigelow



...They can help you, too!

BROWN & BIGELOW uses about 20 million pounds of paper a year. Keeping it in the best possible condition for high quality printing is a big job that is helped by Armstrong Steam Humidifiers.

The company says: "... humidifiers have greatly minimized troublesome paper problems... help keep production schedules high by decreasing static and improving register in printing."

Even in small plants Armstrong Steam Humidifiers pay for themselves. They are low priced, inexpensive to operate, automatic, dependable; a proven means of raising humidity by adding steam to the air. Guaranteed to satisfy, or your money back.

It costs nothing to find out about Armstrong Humidifiers. *Send for free* BULLETIN No. 1774 *giving details.*

ARMSTRONG MACHINE WORKS
847 Maple Street, Three Rivers, Michigan

TRIPLE THREAT
By
NEW ENGLAND
The Oldest Name in Press Blankets

ONE: Our RED RUBBER BLANKETS are now the finest ever made for a press—the nearest thing to being oil-proof you can put on a cylinder.

TWO: REGAL MONOCORKS need no introduction. They have built a name for themselves that is the complete envy of the trade.

THREE: When you put an IDEAL tympan over any combination of these blankets you can be sure of a packing that can not be beat.

YOU BE THE JUDGE!

NEW ENGLAND
FIBRE BLANKET COMPANY

164 FREMONT STREET
WORCESTER MASSACHUSETTS
BRANCHES: New York—Chicago—San Francisco—Tulsa

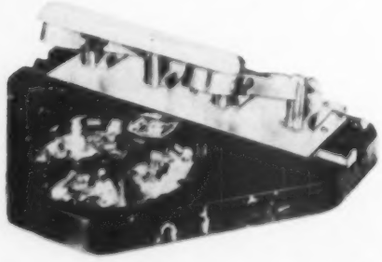
Equipment & Supplies

(Continued from Page 10)

ing where the electronic controls are positioned in relationship to the operation accompany most of the case studies. If you should desire a copy of this booklet, please mention PEE No. 766 in your request.

Plastic Binding Kits

TAUBER PLASTICS, INC., has announced a three punch and a four punch plastic binding kit designed for plastic binding of small volume jobs. The kits consist of a hand punching machine and 150 Tauber plastic binding tubes. Tauber states the machine will punch approx. 15 sheets at a time depending upon the thickness of the stock. Additional tubes are available in diameters of 3/16 in. up to 1 in., all of which fit the same slots punched on either the three or four hole machines. A two hole machine was announced earlier this year, a description of which appeared in the March 1953 issue of *Printing Equipment Engineer*. Further information may be obtained by referring to PEE No. 762 in your request.



Challenge Lockup Table

A LOCKUP TABLE for use in the composing room or as an imposing or lockup table for small presses has been announced by The Challenge Machinery Co. The table is designed with a 2 in. thick cast iron top, a tool shelf, steel drawer with lock, and a shelf and foot rest below. Table top area is 28 in. by 48 in. The top shelf may be used for quoins, mallet, planer, etc., while the drawer is convenient for storing lockup materials and tools. The lower shelf provides additional storage space.

Sponsor claims the table is heavily ribbed and has solid corners to provide a firm surface. Rabbet at front edge of table is of depth and width to accommodate the end of a standard galley. The table is also equipped with leveling screws on two full-length braces under the unit. Larger table top sizes in the model are available. For further details, please mention PEE No. 770 in your request.

Challenge lockup table for use in the composing room or as an imposing or lockup table for small presses. Table top area is 28 in. by 48 in.

Fire Retardant Paint

A FIRE retardant paint, developed by the Fyr-Kote Co., Div. of Morris Paint and Varnish Co., it is claimed, will stop fire from spreading. To be known as Fyr-Kote, the paint may be applied by brush or spray to the interior of buildings. It is described as an oil base flat wall paint. Sponsor states that when

(Continued on Page 24)

FOR SUPERIOR QUALITY PRINTS

USE THE IMPROVED...

Gäco ENGRAVERS RESIST

zomag (magnesium) copper, steel, brass, zinc, and other engraving metals . . .

✓ **these improved features**

- ✶ *Maximum Resistance to Etchants*
- ✶ *Longer Shelf Life*
- ✶ *Greater Fidelity of Reproduction*
- ✶ *Advance Coatability*

Clip the coupon below and turn it over to your Gäco dealer . . .

or mail direct to . . .

JONES GRAPHIC PRODUCTS COMPANY
320 BROADWAY, S. E., ALBUQUERQUE, NEW MEXICO

Ask us about our easy method for soldering Zomag.

Jones Graphic Products Company
320 Broadway, S.E., Albuquerque, New Mexico

Gentlemen:

☐ Please forward at once.....sample kits complete with full instructions and bill me $5.25 per kit postage paid.

☐ Send more information about Gäco Engravers Resist.

Name_____

Company_____

Street Address_____

City_____ State_____

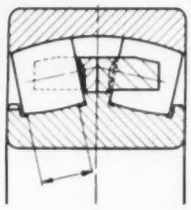
X-101

the SKF

improvement of internal design of spherical roller bearings

Increases capacity 25% to 50%

increases service life 2 to 3½ times

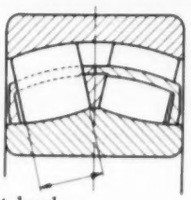


This is the Spherical Roller Bearing design originated by SKF *more than 30 years ago.* The cross-section shows how the integral inner ring flanges, and the undercuts adjacent thereto, limit the effective length of the rollers.

Now, SKF, originator of the Spherical Roller Bearing, has again provided industry with another anti-friction *first.*

This time, it's a revolutionary design advance in Series 222 and 223 bearings providing these advantages:

When designing new equipment, you can obtain the desired life by using smaller or lighter bearings at considerable cost saving. In addition, this forward step in design will carry heavier combinations of radial and thrust loads, or pure thrust loads of greater magnitude. The important self-aligning feature of SKF Spherical Roller Bearings has been preserved, so that considerable misalignment between the shaft and housing has no ill effect whatever on bearing capacity or life.



Here is the latest SKF improvement, a *revolutionary advance in design.* Effective roller guiding is accomplished by means of a separate ring. The need for undercuts is eliminated! This type of guide ring permits the rollers to take the position which their contact with the rings dictates. This assures uniform load distribution over the entire length of the longer rollers at all times. *Result* – greatly increased capacity and life.

During more than 4 years, thousands of installations have been made in railroad journals, vibrating screens, steel mill machinery and numerous other fields. In all cases performance has been outstanding.

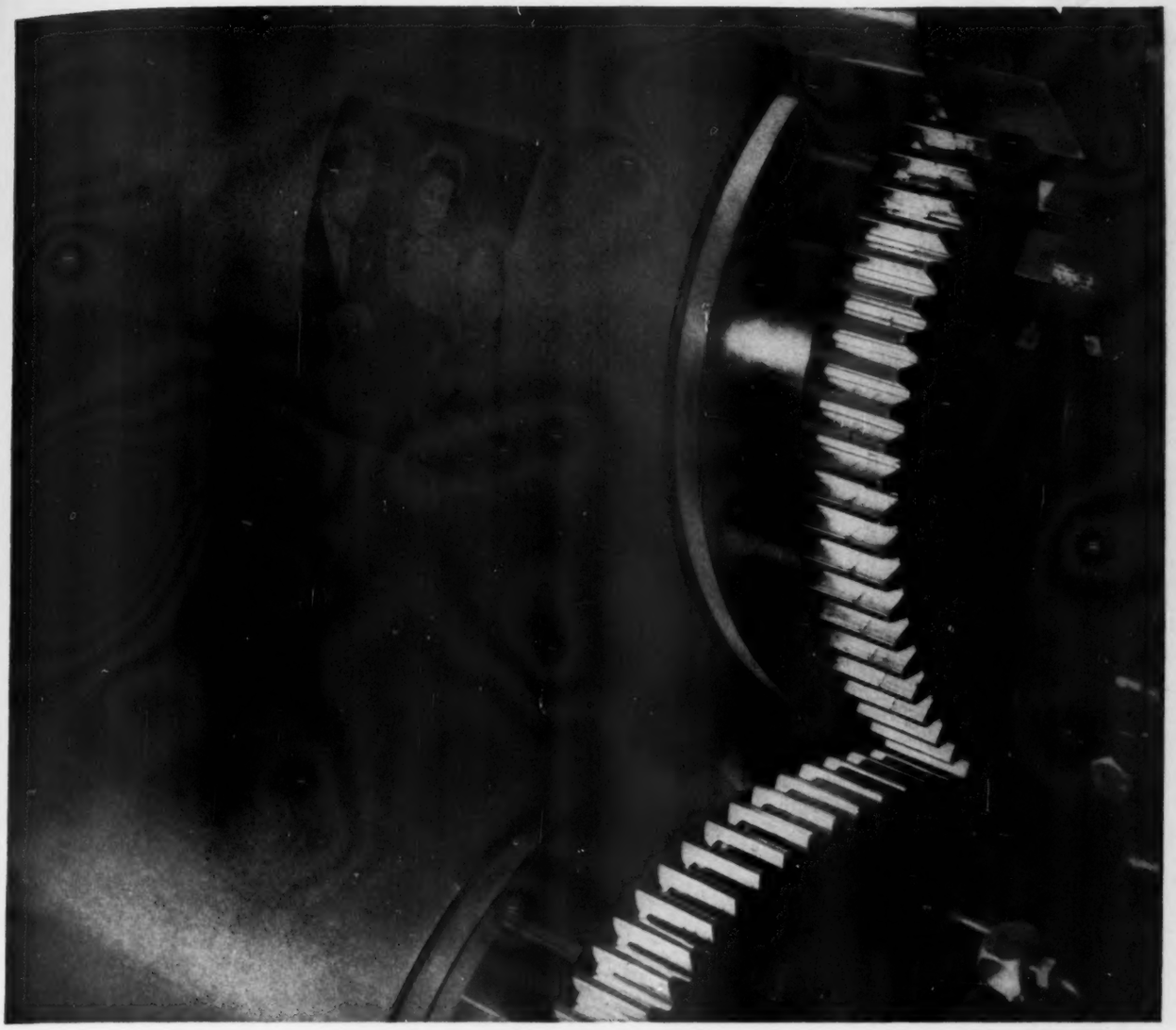
SKF Sales Engineers in our District Offices throughout the country will assist you in making use of the important advantages of the improved internal design of SKF Spherical Roller Bearings. **SKF INDUSTRIES, INC.,** Dept. 616, PHILADELPHIA 32, PA.
– *manufacturers of* **SKF** *and* HESS-BRIGHT *bearings.*

7424

SKF®
BALL AND ROLLER BEARINGS

This 12-page booklet gives you additional facts – sizes available – added capacity, size by size – increased life you can expect for each size – dimensional tabulations – and load and speed data. Write now for your free copy of Booklet No. 365-2.

© 1953, SKF INDUSTRIES, INC.



$50,000 says these gears will stay accurate!

You know what happens when offset press cylinder gears get worn. It's very difficult to get acceptable register or avoid gear streaks. Even a lot of high-priced tinkering won't guarantee good results.

In most presses you'll find cast iron or meehanite cylinder gears shaved to a fairly high degree of accuracy. However, shaving does not produce as accurate gears as grinding; nor will such gears stand up under continual running. Only alloy steel gears case-hardened and *ground* to extremely close tolerances will remain accurate through years of high-speed operation.

The $50,000 Reishauer gear grinder, used to produce gears for supersonic jet planes, is the finest machine-tool available for grinding gears to extreme accuracy on a production basis.

The only Reishauer used in the graphic arts industry today is at ATF's Elizabeth plant—grinding the hardened alloy steel gears of Chief presses to tolerances of .0001" (one twentieth the thickness of a human hair). You can't buy harder, more accurate gears in any press, regardless of price, yet you pay no premium for this ATF exclusive in the precision engineered ATF Chief 20, 22 and 29. Write us. AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, N. J.

American Type Founders

Branches in Principal Cities

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET

What would you look for in a job cylinder press?

Mr. E. W. Schergens, past President of the Hoosier State Press Association, is Associate Editor of The Tell City News and Secretary-Treasurer of the News Publishing Co. of Tell City, Ind. He is also National Editorial Association Director representing Indiana, Illinois, Michigan and Wisconsin.

Here's how a midwestern newspaper publisher answers that question:

"The small job printing plant of a weekly newspaper such as ours is confronted with every kind of job. So *versatility* is the most important requirement for any press we buy.

"It must be able to handle both short and long runs economically, take sheet sizes from postcard to 12 x 18", have quick getaway and changeover from one job to another. Ink coverage must be adequate for large heavy blacks."

Now here's how the ATF Little Giant 6 measures up to Ed Schergens' check-list:

Versatility: ATF Little Giant runs halftones, solids, 4-color process work, ruled forms, all with equal ease.

Economy: ATF Little Giant prints at lowest cost per thousand impressions of any press in its size range.

Sizes: ATF Little Giant handles a 3½ x 5" up to a 12 x 18" sheet, generally 80% of run-of-the-hook work.

Getaway: Quick getaway is possible as ATF's Little Giant requires fewer feeder gripper and air adjustments than other presses of its size.

Changeover: Adjustments for job changeover are kept to a minimum on ATF's Little Giant 6. Form changes can be made right on the press.

Ink Coverage: Three form rollers assure more inches of ink travel and breakup than any on any other press of its sheet size.

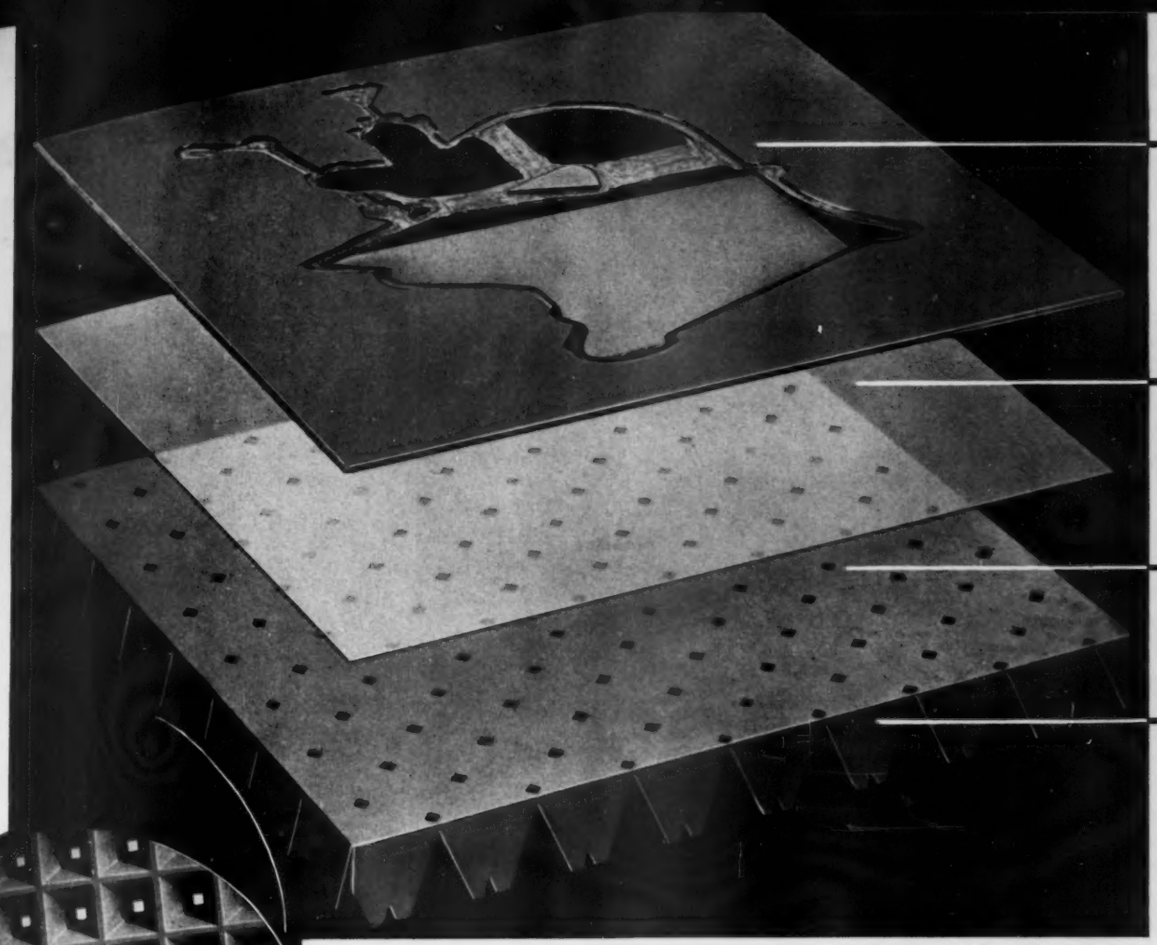
• • •

Find out for yourself—check the Little Giant on these same points, and against any other press of its sheet size. We'll be glad to give you the full story on the ATF Little Giant 6. Write AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Ave., Elizabeth, N. J.

Type faces shown are: Tower, Stymie Medium, Century Bold Italic, Century Expanded, Alternate Gothic No. 1.

ATF

BETTER, MORE PROFITABLE PRINTING
FROM THE WIDEST LINE OF PROCESSES...
GRAVURE...LETTERPRESS...OFFSET



VANDERCOOK Lite-Base*

guarantees permanently accurate mounted plates—and helps letterpress printers to reduce pressroom delays and improve quality!

The old and costly problem of delays in pressrooms—due to unstable and inaccurate mounted plates—can be quickly and economically solved by mounting plates on Vandercook "*Lite-Base*" instead of wood. For printers with sufficient volume, it is more efficient for them to mount their own plates.

Vandercook "*Lite-Base*" is cast from type metal that can be recast over and over again. With the efficient equipment made available by Vandercook, one man can easily produce fifty "*Lite-Base*" casts (12″ x 18″) in eight hours. The remaining operations necessary to mount plates on "*Lite-Base*" are practically the same as flush mounting on wood.

Write... **for more detailed information**

This new illustrated circular fully describes Vandercook "*Lite-Base*"—how it is cast, how plates are mounted, and the equipment that is necessary.

*DOMESTIC AND FOREIGN PATENTS PENDING

VANDERCOOK PRE-PRESS ...CUTS COSTS!

VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
900 North Kilpatrick Avenue, Chicago 51, Illinois Phone: EStebrook 8-1400

Eastern Office & Demonstration Room
323 E. 44th St., New York 17, N.Y.
Phone: MUrray Hill 4-4197

Western Office
3156 Wilshire Blvd., Los Angeles 5, Calif.
Phone: DUnkirk 8-9931

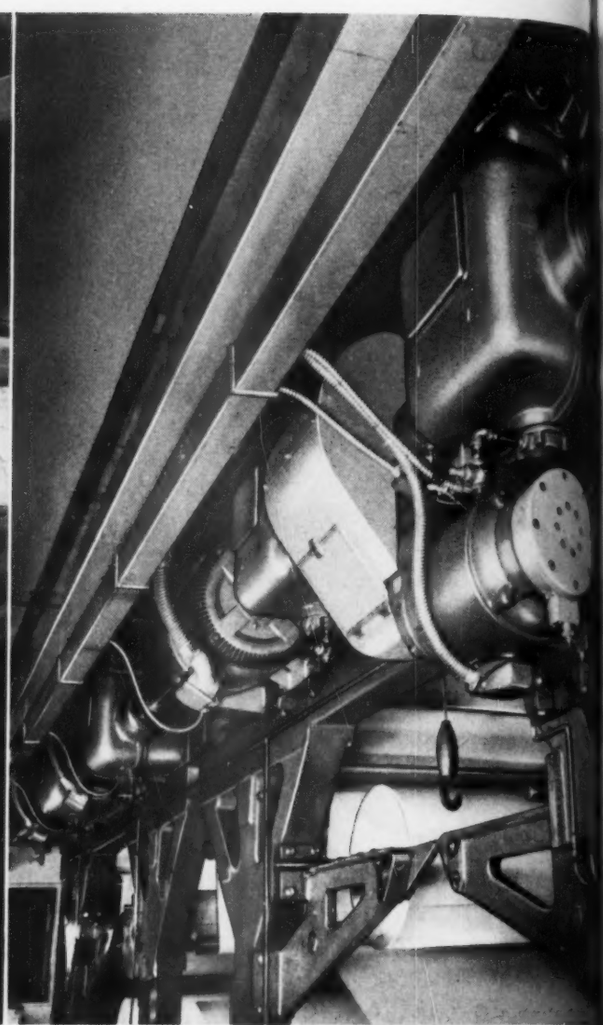
Do as the Newspaper Press

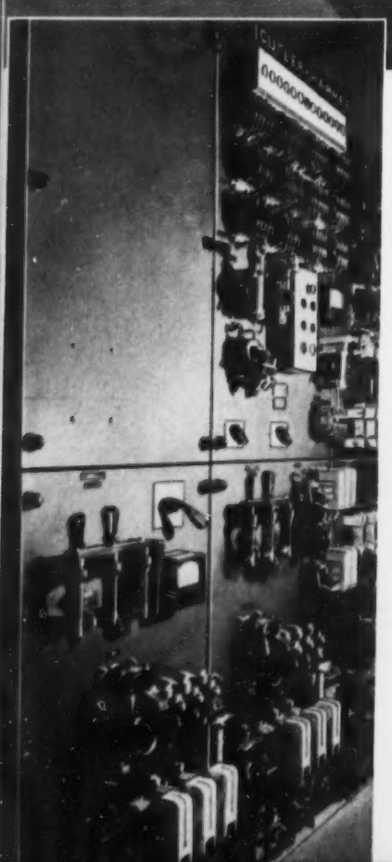
Cutler-Hammer Control System for Unit Drive on

ST. CATHARINES (ONT.) STANDARD

"The equipment was installed locally *without the aid of a Cutler-Hammer erector* . . . is operating entirely satisfactorily. We operated a Duplex Tubular press equipped with Cutler-Hammer for 24 years. Our satisfaction was a major factor in our decision to use Cutler-Hammer for our new press"—W. B. C. Burgoyne, Managing Director.

CUTLER-HAMMER
MOTOR CONTROL
C-H



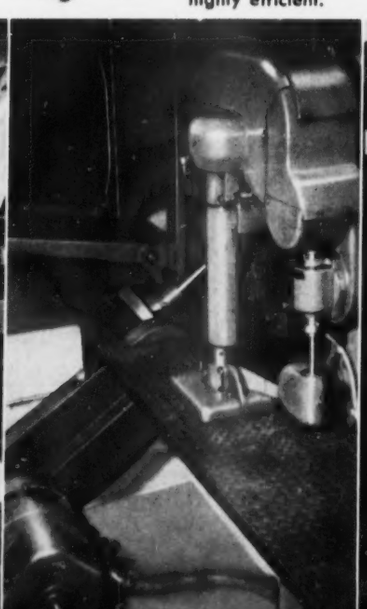


Cutler-Hammer Electronic Control for Single Motor Drive on Goss Tubular Press at

GOSHEN, IND., NEWS DEMOCRAT

One of a series of highly successful Cutler-Hammer Electronic Single Motor Drives on tubular type presses. Simple, dependable, highly efficient.

CUTLER-HAMMER
MOTOR CONTROL
C-H



Designer does

KEEP IT SIMPLE–KEEP IT STURDY

THAT MEANS IN UNIT DRIVE CONTROL

KEEP IT CUTLER-HAMMER

Despite the fact that more and more functions are being designed into modern newspaper presses, the good designer seeks vigorously to simplify his design . . . to get the same results with fewer parts, simpler and sturdier parts. If he *doesn't* do this, he knows he is letting himself, his machine and its user in for trouble.

When it comes to the unit drive for this press, and the control scheme for the unit drive, *troubles compound*—if drive and control are not more simple, more sturdy, more dependable, *more understandable.*

This is hard common sense, the same common sense that leads experienced newspaper men to choose Cutler-Hammer Unit Drive Motor Control for their new presses.

This is a *paired* system, simple, sturdy, trouble-free unit a.c. wound rotor motors *paired* with Cutler-Hammer Unit Drive Control made up of simple, sturdy industrial type control components known to every plant electrician . . . and together giving you the fundamental needs.

Easy inching and threading, smooth acceleration to maximum press running speed, perfect synchronization of motors, long life, freedom from trouble, flexibility . . . all these are yours together with specific Cutler-Hammer superiorities. There's the new C-H cam drum accelerating device with 72 speed points. There's the fact that inching and threading *don't* draw current through the unit drive motors. There's freedom from troubles such as changing load adjusting resistor switches, unbalanced loads, circulating currents and excessive peaks. *And your own electrician can service this drive and can service this control.*

The Cutler-Hammer Representative has a dramatic and compelling story to tell. See him before you buy. CUTLER-HAMMER, Inc., 1460 St. Paul Avenue, Milwaukee 1, Wis.

CUTLER-HAMMER
WEB BREAK DETECTORS

Stop press instantly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

CUTLER-HAMMER
WEB SEVERING DEVICE

A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.

CUTLER-HAMMER
MOTOR CONTROL
C-H

Cutler-Hammer Control for Press Drive on Hoe Rotogravure Press in plant of

KABLE BROTHERS,
Mt. Morris, Ill.

Wood Dry Mats are used and appreciated in stereo rooms everywhere simply because of their unfailing high quality.

WOOD FLONG CORPORATION

HOOSICK FALLS, N. Y.

New York City Office
551 FIFTH AVENUE, NEW YORK 17, N. Y.

New Self-Contained Unit Humidifier SOLVES HUMIDIFICATION PROBLEMS

... for even the smallest PRINTING PLANTS!

In plant after plant, Bahnson's new Type E Unit Humidifier has solved dry air problems in the printing field. Type E is only one of a number of unit humidifiers manufactured and engineered by Bahnson to solve specific humidity control problems.

Positive humidity control increases production, eliminates waste and lowers operating cost.

Bahnson unit humidifiers require no compressed air, steam, pumps, or floor space. Easy to install—uncrate and suspend from ceiling, then make electrical and water connections. Evaporation range of self-contained units up to 12 gals. per hour per unit, using city or well water at ordinary pressures. Single or multiple installations with fully automatic control. Satisfaction guaranteed by America's largest maker of industrial humidification equipment—used by America's outstanding printing plants.

Tell us your specific problem and get complete recommendations . . . or write for catalogue E-11.

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

Equipment & Supplies

(Continued from Page 16)

exposed to flame, Fyr-Kote pours out carbon dioxide and calcium chloride which smothers the fire and retards the spread of the flames on the surface. Fyr-Kote is listed by Underwriters Laboratories and is available in outside white, interior flat colors, white finish enamel, undercoater, shingle stain colors, clear liquid solution and barn red. Please mention PEE No. 774 if you desire further information.

Contact Printing Lamp Bulletin

A TWO-COLOR bulletin descriptive of the Colight Lamp for contact printing of negatives and positives has been made available by Colwell Lith Products, Inc. In use, a concentrated beam of light is directed from a low voltage, miniature bulb in the lamp which is attached to the darkroom ceiling directly over the printing frame. Control over light intensity is accomplished by a rheostat in the control box attached to the wall. More information on the lamp appeared in the July 1953 issue of *Printing Equipment Engineer*. Detailed specifications are given in the bulletin. For a copy, please ask for PEE No. 761 when writing.

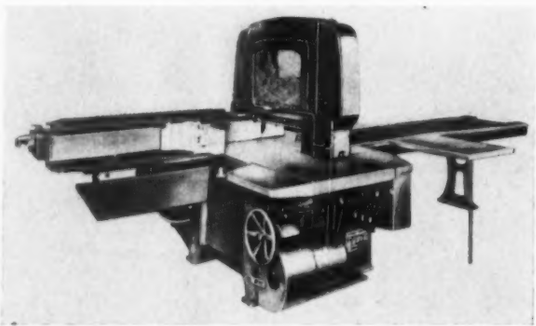
Offset Negative File Cabinet

A STEEL, 11 drawer filing cabinet, designed especially for the storage of offset negatives, has been announced by the Mayville Metal Products Co. The tight construcion of the cabinet is

claimed by the sponsor to make it also practical for the storage of negatives, artwork, pasteups, blueprints, plates and similar material. The cabinet is 29 in. high, with drawers 25 in. wide, 22 in. long and 1½ in. deep. Sponsor states each drawer will support 200 lbs. Index tabs on each drawer handle facilitate filing. Recessed boom and top are separate pieces so that additional 11 drawer sections may be added on top. Please refer to PEE 773 if you desire more details.

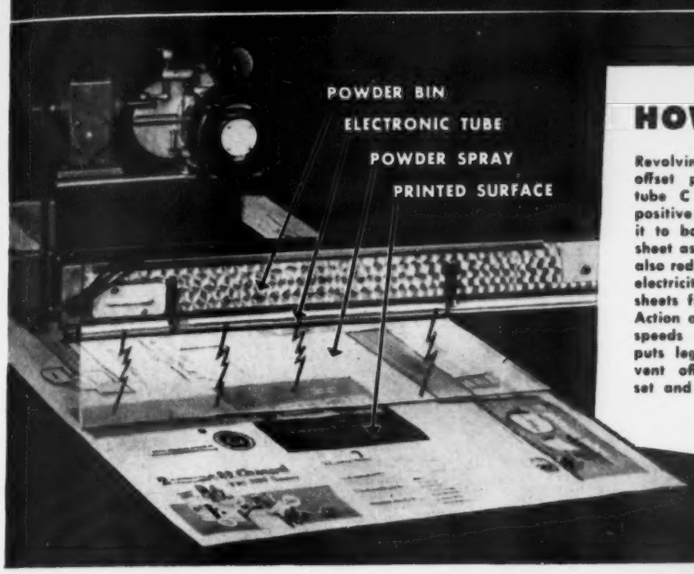
(Continued on Page 28)

Brackett Trimmer Demonstrated — The Dexter Folder Co. recently demonstrated the Brackett Safety Trimmer shown here for the benefit of Canadian printers at the Toronto, Can., showrooms of Sears Ltd. The machine is designed for cutting and trimming booklets, singly or in gangs, label cutting and trimming form sheets, tablets, flat sheets and similar work. It features a power feed and conveyor belt removal of both the finished work and the trimmings under the knife to the back of the machine. The Brackett Trimmer will operate at 6 to 8 lifts per min. Back guide is set mechanically by means of spacer shafts. Specifications are as follows: Max. sheet width, 25½ in.; guide lengths, 25 in., 38 in. and 50 in.; and max. height of lift, 6 in. A six page, two-color bulletin containing illustrations and descriptions of the trimmer is available. If you desire a copy, please ask for PEE No. 763.



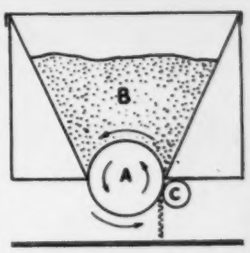
OXY-DRY

THE MOST EFFICIENT OFFSET PREVENTION METHOD



HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset powder B past electronic tube C which gives 10,000 volt positive charge to powder, causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



gives you

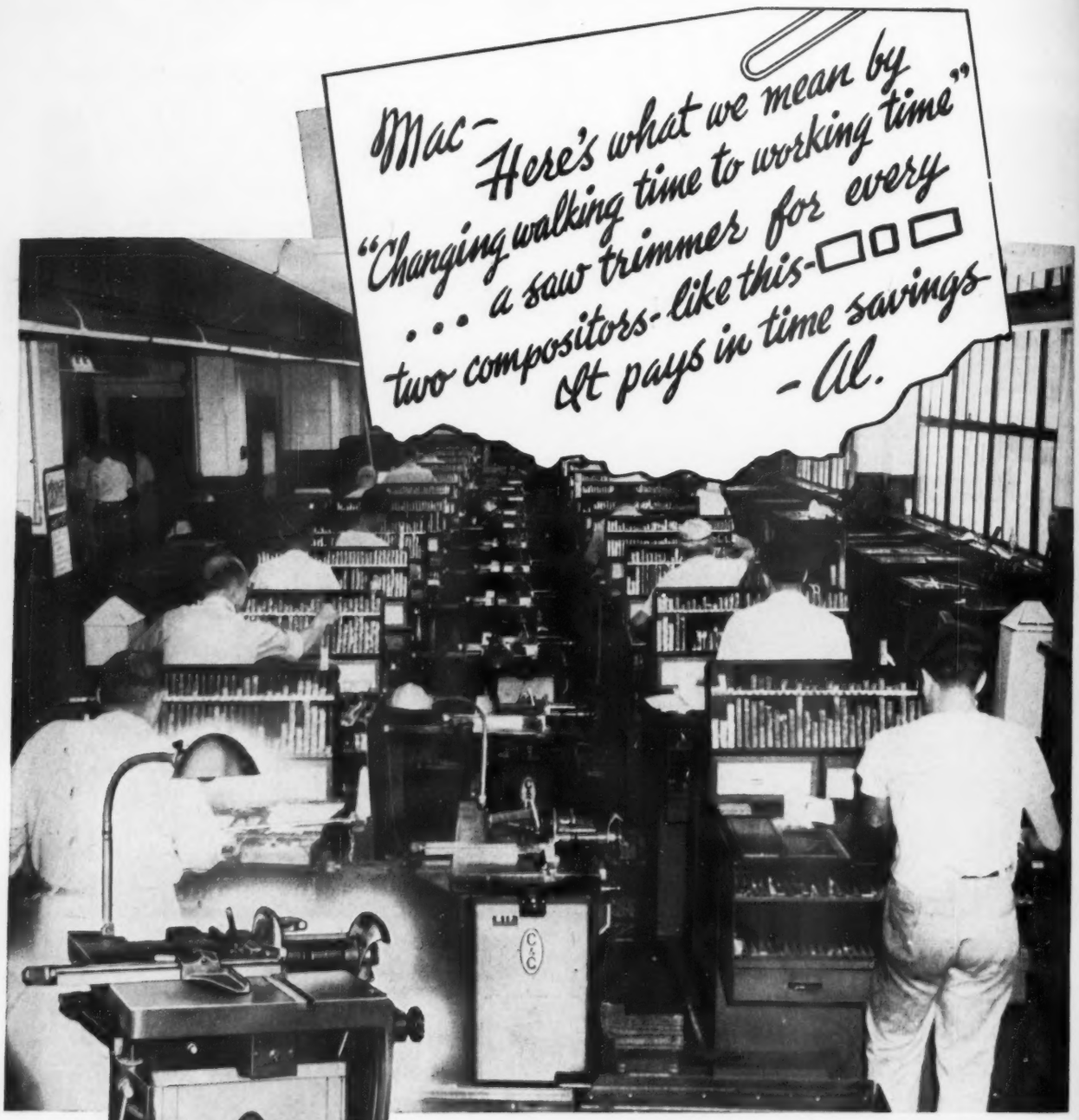
- **Uniform, full, free flowing loads** *for sharply increased hourly impressions*
- **Equipment that sprays the sheet only** *with dry efficient powder*
- **A smooth, clean spray and waste-free operation** *that increases your profits by producing more deliverable sheets*

gets rid of

- **Uneven loads from spotty build-up of sticky spray or powder clots**
- **Scatter-shot spraying that coats the whole pressroom**
- **Messy, dirt-catching spray films and powder clots that waste paper, press time and press maintenance**

NEW

OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder... one of a parade of improvements you can expect only from OXY-DRY research and development.



13 Morrison Saw Trimmers at Times-Picayune, New Orleans
No compositor has to walk more than a couple of steps to a saw trimmer in the modern Times-Picayune composing room. A Morrison trimmer between each two ad banks saves a lot of effort and time, and definitely speeds up production. It's good modern planning.

MORRISON 3-A SAW TRIMMER

A versatile time-and-money-saver in any composing room, Model 3-A is designed for greater accuracy, improved visibility and easier handling. Has popular "behind the gauge" workholder, 73-pica gauge, 135-pica extension gauge, miter and line-up gauge, right and left hand miter vise, saw grinder, trimmer grinder and other Deluxe equipment.

Other Morrison Equipment Includes: Slug Stripper, Plate Beveler, Router and Type High Planer, Strip Material Cabinets, Waste Receptacles, Universal Saw Blades, Router Bits, and Jigsaw Blades.

Symbol of Operating Economy

MC THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY
PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY
125 W. MELVINA STREET • MILWAUKEE 12, WIS.

again! The Miami Herald

orders more Headliners — with GOSS Reels-Tensions-Pasters

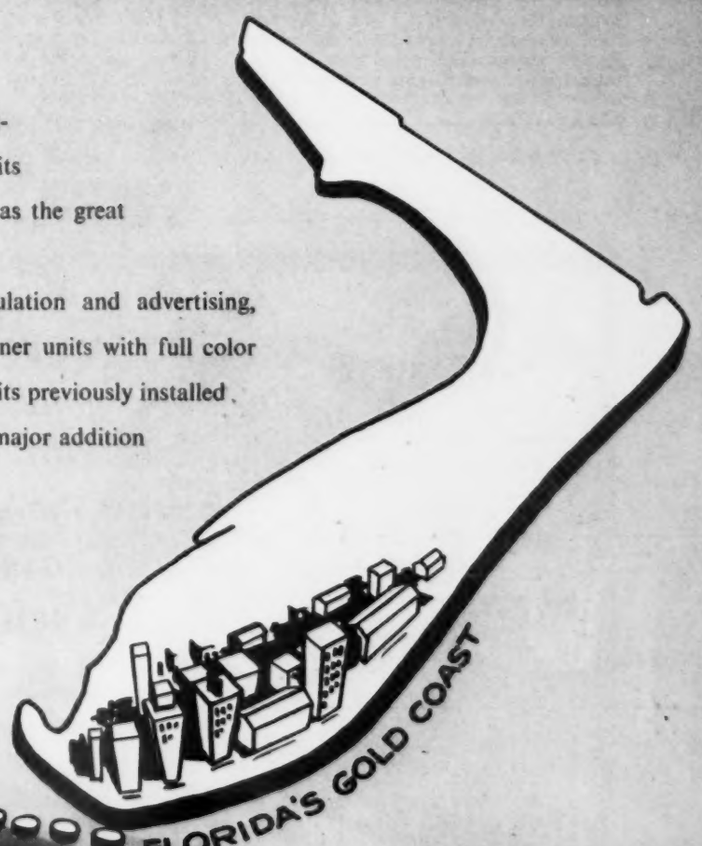
keeping abreast "record-breaking gains" in "Florida's Billion-Dollar Gold Coast"

■ Greater Miami—served by *The Miami Herald*—leads the entire country in construction for the fourth consecutive year . . . has doubled the number of its business firms in seven years . . . continues as the great resort capital of the nation.

Keeping pace with rapidly increasing circulation and advertising, *The Miami Herald* has added 12 new Headliner units with full color flexibility and Goss Reels-Tensions-Pasters to its previously installed Headliners. This is THE HERALD'S fourth major addition to press equipment in recent years.

THE GOSS PRINTING PRESS COMPANY
5601 West 31st Street, Chicago 50, Illinois
Goss Printing Press Co. Ltd., Preston, England

it's **GOSS** *again*



Nation's No. 1 Newspaper Press

Equipment & Supplies

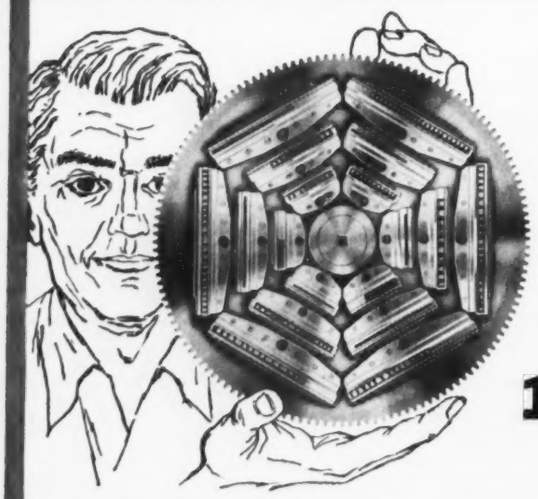
(Continued from Page 24)

Font Booklets for Improved Filmotype Machine

TYPE face designs and hand lettering styles available in fonts for Filmotype composition are shown in two separate specimen books issued by the Filmotype Corporation. The Filmotype machine is designed for providing type line composition reproduced in photographic reproduction proof form for photomechanical platemaking purposes. Sponsor states type and hand lettered lines from 10 to 144 pt. are available for the machine in more than 700 styles and sizes.

The Filmotype has been improved and is now available as an electrically actuated model. This design enables the operator to keep both hands on the selecting reels at all times, while his left little finger touches a sensitive bar on the left side of the machine. Depressing the bar engages the mechanism for printing a letter character and releasing it disengages it before selecting the next letter.

The hand-operated Filmotype machine was illustrated and described in the December 1951 issue of *Printing Equipment Engineer*. The specimen booklets mentioned above are available by requesting PEE No. 775 in your letter.



ever hear of a mold disk with **18** *molds?*

● "There ain't no such animal" as the farmer said when he saw the giraffe.

I know they don't build linecasting machine mold disks with more than six pockets, but we've found the way to get the *effect* of 18 molds—or many more. We do it with the Mohr Saw.

Our newspaper head-letter machine has a disk carrying six 30 pica molds in different body sizes. By a simple setting of the Mohr dial slugs are sawed right at the machine. We use 11½ picas for single column heads, 23 picas 4 points for double column and 17 pica 2 points to be butted for triple column. Six body sizes each in three widths—that is the equivalent of 18 molds.

We use the same idea in our job department where the machine has a 4 mold disk. The slugs are cast in four different body sizes, but all to 30 picas. The Mohr Saw automatically gives us any measure we want, right down to split points. We figure we'd need more than 1000 mold liners to get the same range.

Those Mohr Saws give us real flexibility and save time and money on liner changes and investment.

Send for complete information.

MOHR LINO-SAW COMPANY

126 North Union Avenue · Chicago 6, Illinois

Fire Preventive Dip Tank for Cleaning Parts

A FIRE preventive dip tank for washing parts, castings, assemblies, etc., has been developed by The Protecto-seal Co. The tank is designed as a waist high unit for convenient use. Due to its

fire preventive construction, it may be placed safely in any location in the plant. The hinged cover is self-closing and when not in use, the tank remains covered to protect the cleansing solvent from fire hazards or contamination, and to minimize loss by evaporation. The cover remains open only while the operator's foot is on the treadle; when pressure is relieved the cover closes. Should a fire occur in the flammable solvent while the operator is cleaning parts, the removal of his foot will close the cover and smother the flame. The tank measure is 13 in. by 24¾ in. by 8¾ in. deep and stands 33 in. from the floor. It has a capacity of 8 gal. of cleaning solvent and is equipped with a drain plug. Please refer to PEE No. 771 when writing for more information.

Fork Truck for Congested Areas

THE Cargo Scout, an electric powered 2000 lb. capacity fork truck designed for operation in congested areas, has been introduced by the Elwell-Parker Electric Co. The truck is designed for freight car and highway truck loading

and unloading, and for operation in narrow aisles or on small elevators. It is also suited for truck terminal transfer and loading.

Features of the three-wheeled Cargo Scout include: end control for speed and convenience of operators who must get

(Continued on Page 34)

has your business reached the

point of decision?

● Any successful printing business will come to it.

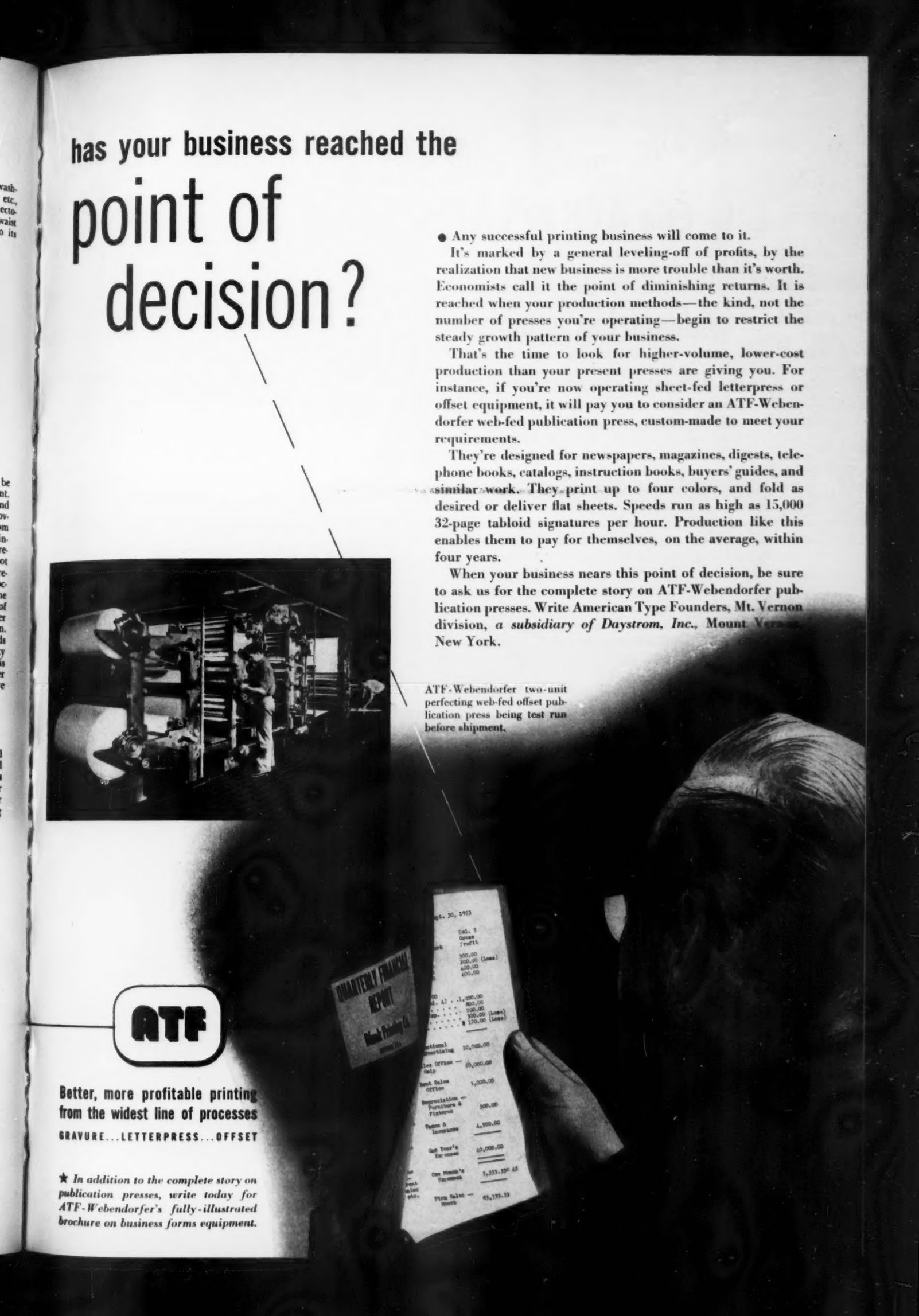
It's marked by a general leveling-off of profits, by the realization that new business is more trouble than it's worth. Economists call it the point of diminishing returns. It is reached when your production methods—the kind, not the number of presses you're operating—begin to restrict the steady growth pattern of your business.

That's the time to look for higher-volume, lower-cost production than your present presses are giving you. For instance, if you're now operating sheet-fed letterpress or offset equipment, it will pay you to consider an ATF-Webendorfer web-fed publication press, custom-made to meet your requirements.

They're designed for newspapers, magazines, digests, telephone books, catalogs, instruction books, buyers' guides, and similar work. They print up to four colors, and fold as desired or deliver flat sheets. Speeds run as high as 15,000 32-page tabloid signatures per hour. Production like this enables them to pay for themselves, on the average, within four years.

When your business nears this point of decision, be sure to ask us for the complete story on ATF-Webendorfer publication presses. Write American Type Founders, Mt. Vernon division, *a subsidiary of Daystrom, Inc.*, Mount Vernon, New York.

ATF-Webendorfer two-unit perfecting web-fed offset publication press being test run before shipment.



ATF

Better, more profitable printing from the widest line of processes

GRAVURE...LETTERPRESS...OFFSET

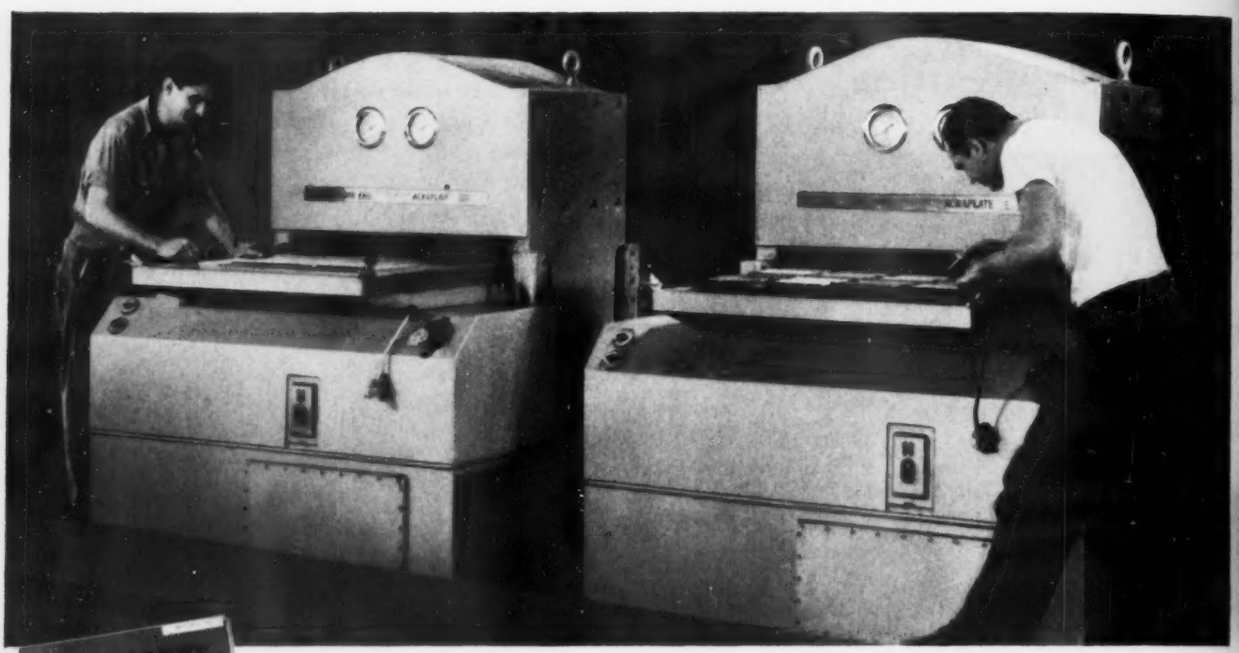
★ *In addition to the complete story on publication presses, write today for ATF-Webendorfer's fully-illustrated brochure on business forms equipment.*

"We consider only Lake Erie ACRAPLATES when ordering new vulcanizing equipment"

One of the country's largest producers of rubber printing plates and other precision molded products tells why they specify ACRAPLATES exclusively.

The Consolidated Stamp Mfg. Co., with divisions and affiliates throughout the country, can truly speak with the voice of experience. Its main plants in New York, Philadelphia, Chicago and Los Angeles, consuming thousands of pounds of natural and synthetic rubber compounds each week, *have been using Lake Erie* ACRAPLATES *for over 12 years, have 16 units in service.* Listen to what else Consolidated has to say: "Our Lake Erie ACRAPLATES have saved us thousands of dollars in operating costs...have given us extremely high production and a minimum of waste...have produced uniform products of the highest quality."

It's the same story in leading plants everywhere. ACRAPLATE is the overwhelming favorite for molding rubber and plastics. If you want fast...dependable...high quality...low cost production, do as the leaders do and select ACRAPLATE equipment for your plant. Write or call us for any assistance you may need in the selection of equipment for your plant. No obligation.



Two of the six Lake Erie ACRAPLATES in the Consolidated plant at Spring Valley, N. Y. These Model 32 ACRAPLATES have platens measuring 36″x28″ and capacities of 320 tons each. Other models available have pressure capacities ranging from 115 to 550 tons and platens varying in size from 17″x22″ to 36″x44″. There's an ACRAPLATE for every type and size of plant. Write or call us for a recommendation.

Write for Bulletin No. 350 Full information on ACRAPLATE equipment for your plant. Specifications. Accessories. Descriptions. Illustrations.

LAKE ERIE ENGINEERING CORP.

General Offices and Plant

568 Woodward Avenue, Buffalo 17, New York

★

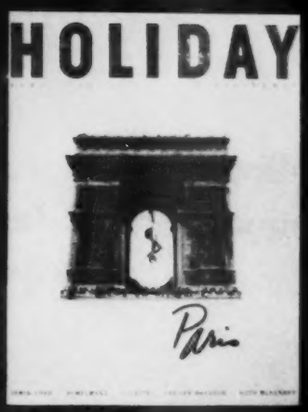
● Leading manufacturer of hydraulic presses—3,500 designs from 5 to 22,000 tons capacity—rubber and plastic plate molding...stereotype molding...plastics' molding...laminating...die sinking...die casting...metal working...forging...metal extrusion...wallboard and plywood...rubber vulcanizing...special purpose.

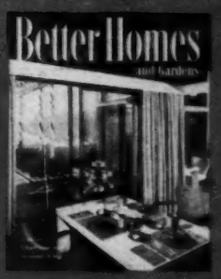
LAKE ERIE ®

ACRAPLATE ®

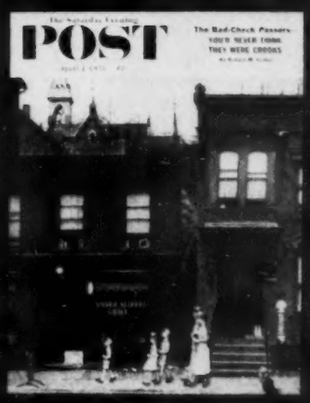
LAKE ERIE
ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

In Every Case





the search for Fidelity

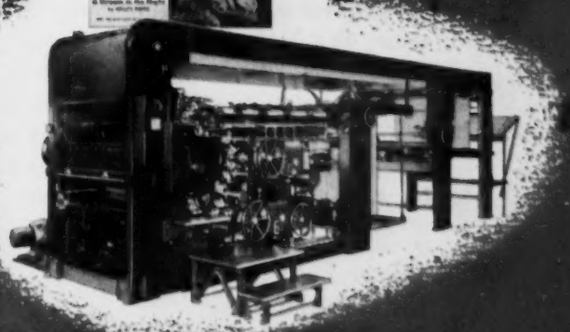


and the need for Speed

with Operating Ease

are answered by COTTRELL PRESSES

COTTRELL insures that refreshing result



with the world's most faithful presses

Modern 2 color rotary presses built for the commercial printer are the result of this magazine press know-how . . . with Cottrell you invest in the finest in production-fidelity-and economy.

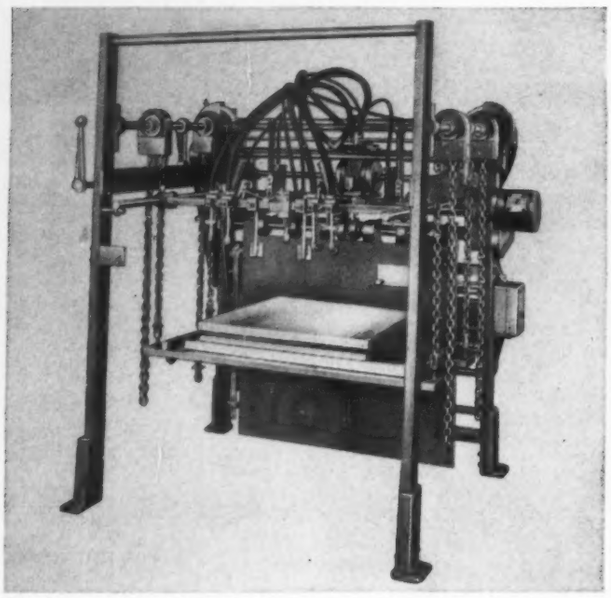
COTTRELL . . . COLOR PRESS · PIONEERS

C. B. COTTRELL & SONS COMPANY
Westerly, Rhode Island

Claybourn Division,
Milwaukee, Wis.

Sales Offices:
New York, Chicago, London

Dexter Continuous Reloading Metal Sheet Feeding Eliminates Loading Time Losses



The Dexter Metal Sheet Feeder

The Dexter Metal Sheet Feeder automatically feeds sheets to press, coater, slitter or other machine. It handles stock from 38 to 24 gauge, 36 x 44" to 14 x 16", loads up to 6,000 lbs.

The feeder automatically separates and picks up metal sheets from pile and advances them to registering or feeding-in point.

Reloading mechanism eliminates need of stops to reload.

Should two sheets adhere, reject mechanism diverts them to reject tray without stopping machine or slowing down production.

Fewer stops and less tripping make for work of more uniform quality.

There is no marking or scratching of sheets.

Stock may be trucked into feeder by either electric or hand lift trucks or by means of floor load conveyors.

Special feeders can be supplied to handle up to 16 gauge, 48 x 144" and 30,000 lbs. load.

The services of our engineers and organization are available, without obligation to you, for consultation in development of automatic feeding of various types of machines used in your plant for handling tin plate, black iron or other metals in sheets.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Provides oil-free air blast — or vacuum — for printing and packaging machinery

The Dexter-Conde DRI-AIR *Pump*

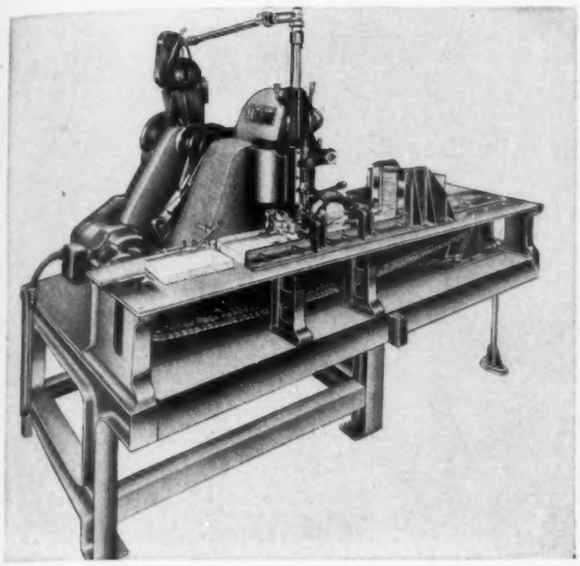
Here are some of the advantages you get with this new oilless pump:

- No lubrication required
- Air blast completely free from oil pollution
- High efficiency that actually increases as pump is used
- Cool running — with long life and negligible wear
- Doesn't overheat. Doesn't freeze up
- Has no oil cups to be kept filled and turned down, or expensively forgotten. Never accumulates greasy dirt or oil pools, to create a fire hazard
- Double-sealed, grease-packed New Departure ball bearings operate under normal atmospheric pressure and are completely removed from pump chamber
- Tolerances are close and there are no gaskets to leak or blow
- Carbon-graphite alloy vanes are stick-proof, warp-proof, chemically inert. They provide their own lubrication and become increasingly efficient as the pump is used.

The Dexter-Conde DRI-AIR Pump makes a clean installation and is available in three sizes, one of which will meet your air blast and vacuum requirements.

Write for circular giving additional information.

Sewn this way, books are much stronger, and they cost less to produce



The McCain Book Side Sewing Machine

This machine produces much stronger, much more rugged books.

Its maximum operating speed is 250 one inch stitches per minute.

Books more than ¾" thick are drilled half from above, half from below.

Drill chips are removed by vacuum. Single thread is used, lubricated with liquid soap.

As book is sewed, bottom row of stitching is tightly glued for extra strength.

End sheets and reinforcing strips are sewed right in. Separate color and halftone pages are jogged and sewn into the complete unit.

Machine is easily adjusted, cleaned and lubricated.

Estimated production in number of books*

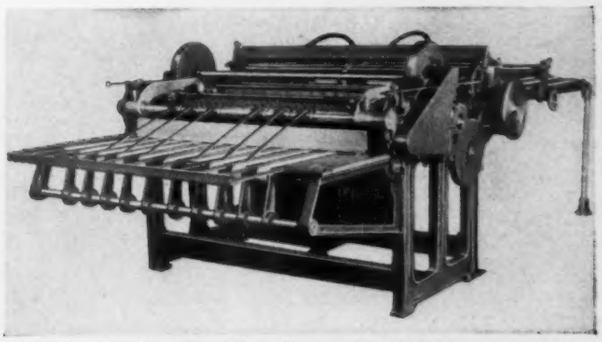
Thickness	Books per hour	Thickness	Books per hour
3/16 to 3/4"	1,000	1-1/2"	600
7/8"	900	1-3/4"	500
1"	800	2"	400
1-1/4"	700		

**Based on books 8½" long and untrimmed*

Write for brochure telling more about this method of producing much stronger books and at the same time raising production and reducing binding costs.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Folds, slits and stacks four-page jobs at up to 12,000 sheets per hour



The Dexter-McCain High Speed Single Fold Folder

With the Dexter-McCain High Speed Single Fold Folder, covers, inserts and other four page jobs, singly or in gangs, are folded, slit apart and stacked on flat delivery at speeds of 10,000 to 12,000 sheets per hour, depending on quality and condition of stock.

Maximum size sheet handled is 24 x 50"; minimum size 12 x 18".

This machine is also equipped to handle center bleed trimming. It has continuous air wheel feeder, is rigidly constructed and has ball bearings and roller gears, hardened and ground.

A valuable feature of this folder is that it folds with ease covers and other heavy stocks which are difficult to handle on other types of folders.

This machine is now being used mainly to fold long runs of covers for magazines of large circulation.

Our representative will give you further information about this high speed, single fold folder.

Equipment & Supplies

(Continued from Page 28)

on and off the truck frequently; 43½ in. wheelbase to permit turning in crowded areas; a specially designed device to eliminate steering wheel kick-back, 68 in. high uprights and full initial lift to permit stacking in low head room areas; and heavy duty drive axle to withstand high speeds and fast acceleration. Sponsor states the truck's contactor control permits fast, smooth starts with one handle controlling four speeds in both directions. Hydraulic lift mechanism is designed for controlled lowering and an automatic unloading device prevents overloading. Further details may be had by asking for PEE No. 781 in your request.

Relyon Reproduction Paper

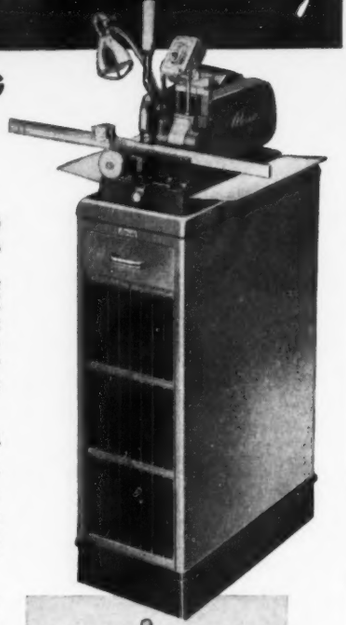
A NEW and thinner Reylon Reproduction Proof Paper has been announced by McLaurin-Jones Co. The new stock calipers 0.004 in. thick. The paper is double coated with non-glare finish. Furnished in 19 in. by 35 in. size, 43 lbs. per ream. Use of high pigment ink without excess varnish is recommended since ink dries primarily by penetration rather than by surface drying. The paper is claimed to minimize the hazards both of bleeding and halo. Further information will be furnished if you will mention PEE No. 777 in your request.

DO THE WORK OF HOURS *in Minutes!*

SLASH YOUR PRINTING COSTS WITH THE

Rouse

POWER MITERER



If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

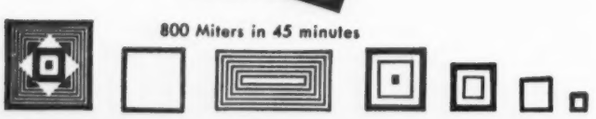
You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.

NEW ROUSE CATALOG

Write for your copy TODAY!

800 Miters in 45 minutes



H. B. ROUSE & COMPANY

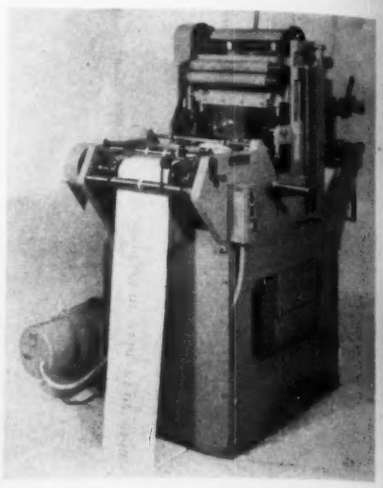
2214 NO. WAYNE AVE., CHICAGO 14, ILLINOIS

ROUSE PRODUCTS — THE STANDARD OF THE WORLD FOR 50 YEARS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

Numbering Press

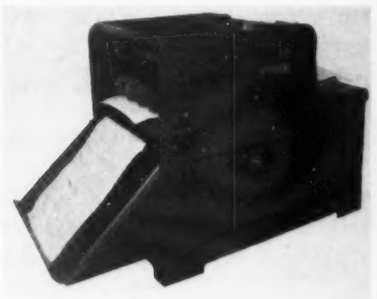
THE Pearce Development Co. has developed a numbering press for printing numbers up to 1½ in. high on a continuous web up to 16 in. wide. The press is primarily designed for use by



tag and label manufacturers, and office form printers who require continuous large number printing on a web.

According to Pearce, the Numbering Press can print 6000 to 7000 i.p.h. Ink distribution is performed by four form rollers. The number of 1½ in. numbers is limited only by 8 in. by 14 in. case dimensions for the numbering machines. The draw varies for 2 in. to 12 in. The Pearce Numbering Press, as now built, will accommodate a William A. Force Typograph numbering machine. Ask for PEE No. 752 in your inquiry if you desire more details.

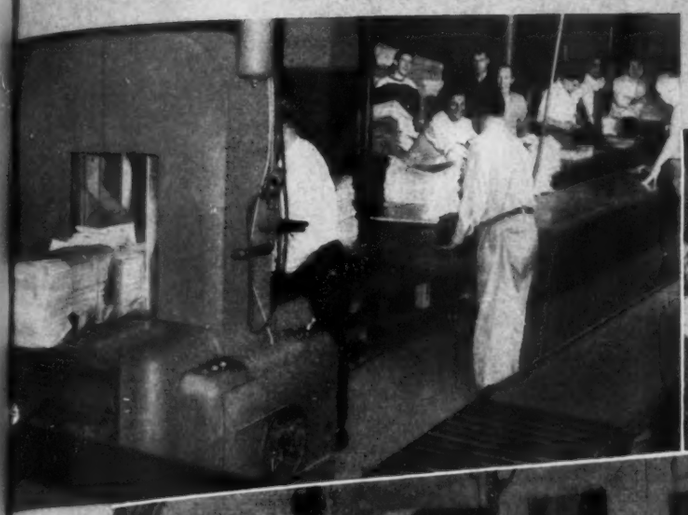
Automatic Infrared Stereotype Mat Pretreating Machine — American Publishers Supply, Inc., states its matrix pre-treating machine operates automatically after a matrix has been placed between traveling horizontal escalator wires. As the



mat passes between the banks of lamps, moisture is driven from the mat. The mat is delivered into an inclined rack at one end of the machine after being heat treated. Duration of the infrared treatment is controlled by speed of the matrix through the machine and by the timing of the input clocks on the infrared units. Application of infrared rays is by two banks of parabolic reflectors and heating units. Units are controlled in 15 sec. cy. and may be adjusted to any number of seconds on and off. The banks of units are slide mounted and can be raised or lowered for intense or modified heat

Wiretyer - Streamlines MAILROOM PRODUCTION at far less cost!

Fully Automatic



Wiretyer at work in various plants where speed and easy handling are essentials.

Wiretyer installations serving these well-known publishers:

Akron Beacon-Journal — Miami Herald
Danner Press — Milwaukee Journal
Florida Times-Union — Newark Evening News
New York Herald-Tribune

FEW modern mechanical miracles are as impressive as ponderous, high-speed newspaper presses that turn out many thousands of complete newspapers in a matter of minutes.

Up to now, the problem of bundling this prodigious output and getting it promptly to waiting trucks has been a major bottleneck in newspaper mailrooms.

Now, Wiretyer equipment is serving newspapers across the country with unprecedented speed and economy of operation that amortizes its cost in just a few years.

What this remarkable new development is accomplishing for newspapers and publications generally it can do with equal facility and flexibility in any industry having occasion to produce strong, pilfer-proof bundles of soft or hard goods, with speed and economy.

Write today for your copy of Wiretyer Bulletin 101. Until you examine the possibilities of this equipment, in its relationship to your business, you cannot possibly appreciate the remarkable advantages of this revolutionary development.

WIRETYER CORPORATION

693-5

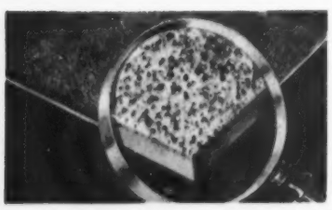
230 WARBURTON AVENUE, HAWTHORNE, NEW JERSEY

Why Floors Never Get Slippery in the CLEVELAND PLAIN DEALER'S PRESSROOM

Even accumulated ink mist and oils on the floor can't cause slipping accidents! *Reason:* A. W. ALGRIP Abrasive Rolled Steel Floor Plate safeguards the Plain Dealer's pressroom. After two years' use the Paper recently expressed its satisfaction with ALGRIP.

The truth is, wherever you install ALGRIP, accident rates *and* insurance rates are bound to decrease. For with abrasive "grinding-wheel" grain rolled densely and deeply into steel plate's upper portion, ALGRIP puts *hundreds of tiny safety brakes in every footstep.* It's virtually impossible to slip on this anti-skid metal flooring—even on steep inclines! And ALGRIP actually pays for itself in lower insurance premiums.

Start getting your *savings from safety* now. Take a moment to send for our new ALGRIP Foot-safety Booklet, AL-33. Also, ask any questions you wish; we'll be glad to answer them without obligation.



RECENT INSTALLATIONS—Here are a few recent ALGRIP installations: Seattle Times, Seattle, Washington • Beaumont Enterprise & Journal, Beaumont, Texas • St. Petersburg Times, St. Petersburg, Florida • Washington Times Herald, Washington, D.C. • Also many other names furnished on request.

◀ *Magnification shows even distribution of abrasive grain.*

THERE'S NEVER A SLIP ON A. W. ALGRIP

Over 125 Years of Iron and Steel Making Experience

ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

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against the mat. Floor space is 36 in. by 68 in. by 42 in. high. Please mention PEE No. 768 in your request for further information.

Eyelet Unit for Stringer and Knotter

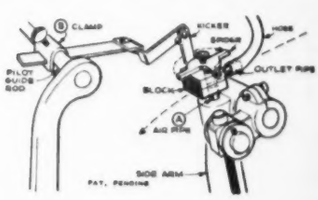
THE Graeber Stringer and Knotter is now equipped with an eyelet unit designed for automatic eyeletting, according to Graeber Stringing and Wiring Machine Co. Sponsor claims the unit will

attach eyelets to tags, booklets and similar material at speeds up to 7500 per hr. The eyelet unit is attached by removing the punch head on the machine.

After installation of the unit, three adjustments are necessary for operation of the Graeber Stringer and Knotter as follows: (1) Setting the tag magazine; (2) Fitting the air suction slide to product size; and (3) Adjusting to desired string length. A signal bell rings every 50 to 100 tags to facilitate counting and boxing tags by the operator. The machine handles different size products from 1 in. to 1¼ in., to 6 in. by 12 in., and up to 18 pages. Additional details are available in a bulletin issued by Graeber. Please ask for PEE No. 765 if you wish a copy.

Double Rolling Device

DESIGNED for installation on any model Miehle Vertical press is the Spider-Trip automatic double rolling device, announced by the Spider-Trip Company. The device, which allow a sheet to be fed into the press on every



other revolution, permits the pressman to double the ink distribution on any job. Sponsor states it is especially useful when feeding heavy stock which requires increased ink distribution, as it allows the feed table sufficient time to raise itself to the proper feeding level. As shown in the accompanying illustration, it is attached to the feeder side arm. Sponsor claims it can be installed in one minute's time. Additional details are available by asking for PEE No. 782 in your request.

(*Continued on Page 65*)

We Couldn't Have Said It Better Ourselves!

We've been telling you how well pleased you'd be with

Strong GRAFARC LAMPS

. . . now read what a few printers and publishers have to say:

"ABSOLUTELY DEPENDABLE."
—A New York City lithographer.

"A Strong Grafarc lamp has enabled us to reduce our exposures of deep-etch plates by two minutes and thirty seconds, and on flat plates, one minute, which certainly is A GREAT SAVING TO US IN PRODUCTION TIME. The features which appeal to us most are: [1] The easy handling and operation. [2] The clarity and steady burning of carbons, and, [3] the improved method of carbon holders."
—A Winnipeg Canada printer and lithographer.

"Highly satisfactory. ONE OF OUR PROUDEST POSSESSIONS and should we require another such lamp, we would not consider any other than a Strong Grafarc lamp. We heartily recommend it to anyone in our field of business."
—A New York City printer.

"Giving very satisfactory results. WE APPRECIATE THE PERIODIC CHECK-UP made by your representative to see that our lamp is in good working order."
—A Milwaukee printer and lithographer.

"IF ALL OUR EQUIPMENT WERE AS GOOD, WE LITHOGRAPHERS WOULD HAVE FEWER ULCERS."
—A Stamford, Conn. lithographer.

"Performing satisfactorily in every respect."
—A Cleveland lithographer.

"We would hate to have to ever return to the older type."
—A Binghamton, N. Y. lithographer.

"The COVERAGE IS VERY GOOD and there is NO FLUCTUATION IN LIGHTING."
—A St. Louis printer.

"We were SO PLEASED THAT WE ORDERED A SECOND LAMP."
—A Los Angeles printer.

"A successful, trouble-free, dependable installation. We expected a lot from it, and we have not been disappointed. We have been particularly well pleased in its uniform coverage of large areas, and OUR STANDARD EXPOSURE TIME HAS BEEN CUT IN HALF ON NEARLY ALL KINDS OF WORK. We have also been pleased with its performance on very short exposures where we only light up for a few seconds."
—A Louisville printer.

"WE WONDER HOW WE GOT ALONG WITHOUT IT for so long."
—A Salt Lake City lithographer.

"We are VERY WELL SATISFIED."
—A Tucson, Ariz. printer.

"ACCOMPLISHED ALL THAT WE HOPED IT WOULD, and is serving two vacuum frames from one position."
—A Cleveland lithographer.

"HAS DOUBLED OUR CAPACITY IN MAKING PLATES. Efficient in every way. We are more than pleased."
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"The BEST AND MOST EFFICIENT LAMPS ON THE MARKET. One of the reasons for my enthusiasm is the fact that they use the carbons practically down to the end, and that the light source that we receive from the lights is uniform and strong. I believe that the parabolic reflector is one of the outstanding features of the lamp."
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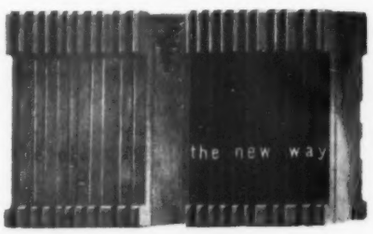

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PRINTING
EQUIPMENT
Engineer
October 1953

Paper Properties as Related to Printability

By WILLIAM H. BUREAU*
**Butler Paper Corporations, Chicago.*

Part II.

IN the previous article, Compressibility and Resiliency were listed among the basic properties involved in printability. These are more commonly referred to as "cushion".

Compressibility of paper takes place in all regular printing processes, and although often not given as much consideration as other properties, is nevertheless, very important. Most physical properties of paper such as tensile strength, dimensional change, tear, etc. are measurable in two dimensions, namely, With and cross grain and within the plane of the paper sheet surface, whereas Compression is a one-dimensional change only since in printing we are concerned primarily with the degree of compression ar right angles to the surface of the sheet. The ability of paper to undergo compression is related to its "hardness" and "density" because papers of very low density, such as Blotting and Newsprint, will quite conceivably undergo considerable compression, whereas dense or "tinny" papers are not nearly as compressible. This varying degree of compressibility of papers is dependent upon the internal arrangement of fibers; namely, The extent of inter-fiber space or air volume mentioned in the previous article. Papers having a high proportion of air space among fibers are more compressible because fibers can be compacted to a great degree by occupying the air spaces.

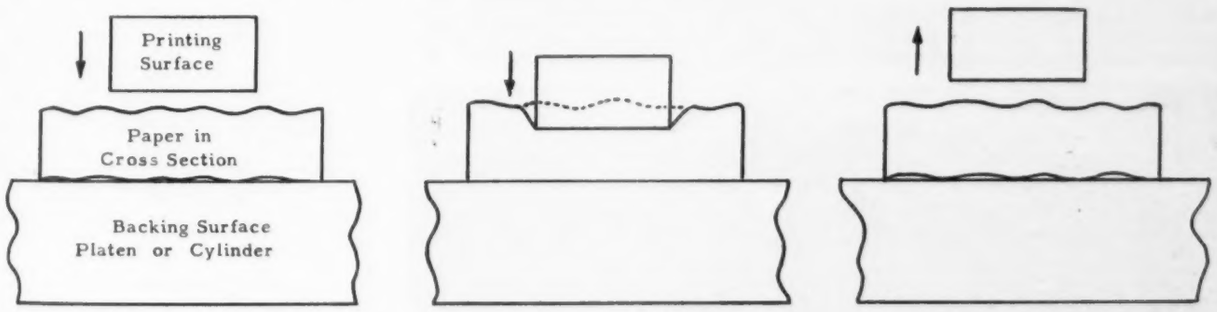
At this point we consider the other parallel property, and that is Resiliency. Rubber is not only compressible, but also highly resilient; that is, it will recover its original thickness upon release of compressive force. The substance is said to be elastic. Likewise, paper does have resiliency. If it did not, then it would not provide a good printing medium since, after once being compressed, for example, on the first impression, it would remain compressed, lose its cushion, and become a much poorer printing surface thereafter. Resiliency is also related to the inter-fiber space, the type of pulps used, their preparation before paper making, and also the manner in which the sheet of paper is actually made. Papers whose individual fibers are highly bonded together for certain physical characteristics, such as those in Bond Paper and Ledger, are not as resilient as a loosely bonded sheet.

All papers become more compressible at higher relative humidity due to the softening effect of added moisture, and this explains why a given paper seems to take the impression better at higher humidities. It is for this same reason papers are sometimes dampened prior to being engraved.

This property of compressibility has been emphasized since it definitely determines the ease with which the printing plate establishes contact with the paper surface. Also this accounts for the different types of makeready necessary when printing various kinds of paper. No paper is perfectly smooth and the actual thickness of paper varies slightly among various sheets and over the area of an individual sheet. In fact, the smoothness of paper prior to and during printing impression can be quite different due to the squeezing of the sheet and consequent leveling effect. The actual smoothness under full printing pressure is sometimes called printing smoothness. Printing smoothness involves compressibility and is a better indication of printability than smoothness obtained under conditions of low or little compression. It should be evident that it is possible that a soft, compressible paper with a comparatively rough surface will offer better printability than a relatively harder and smoother paper. See illustration in figure 1. Compressibility compensates for slight variations in makeready or aids in complete contact of minute areas of paper and printing surface. An incompressible paper would, therefore, necessitate far greater precision in paper manufacturing and in printing operations, and very likely economically impossible to attain in most cases.

The ideal printing paper would almost always be one having high compressibility, but again, this is not always possible due to some sacrifice of this property for other property requirements. Blotting Paper is highly compressible resulting from its construction for maximum absorbency, but, by contrast, Greaseproof Paper is compressible to a very small extent because of its dense structure. The ordinary M.F. or E.F. Book Paper prints well, not just because of its surface, but also because of its construction to yield

(*Continued on Page 67*)



(1) Paper Prior to Impression

(2) Paper Compressed under Impression and surface flattened to make better contact with printing surface

(3) Release of Printing Pressure. Paper recovers in great part its original surface and condition due to resiliency

Fig. 1.—Illustration of Compressibility and Resiliency of paper during Typographic Printing. (Surface irregularities and paper thickness exaggerated for illustrative purposes.)

ITCA

Convention features technological developments at Washington, D. C., meeting — Type composition methods refined — Phototypesetting and camera equipment on display.

THE 1953 convention of the International Typographic Composition Association was held at Hotel Mayflower, Washington, D. C., on Sept. 3 to 5 inclusive. Over 200 members, visitors and guests attended.

At the Thursday morning, Sept. 3 meeting, ITCA President John R. Connell presided. After the opening ceremonies, Walter B. Morawski, Vice Pres. of N. A. Typography, Philadelphia, introduced Hon. Raymond Blattenberger, U. S. Public Printer. Mr. Blattenberger's address was highly appreciated. He discussed what the typesetting industry has done for the Graphic Arts.

The next speaker to be introduced was Frank Lightbown of Cecil H. Wrightson, Inc., Boston. Since *Printing Equipment Engineer's* editorial objectives are technical rather than of a general nature, we'll report that Lightbown's address on *A Son and Your Future* was well received. Outside of the technical session on Friday, most of the program was devoted to ITCA internal affairs, trade conditions, labor matters and accounting and cost methods.

Executive Director Frank M. Sherman is to be congratulated upon planning an excellent program. He seems to have the unqualified approval of Association members, a number of them referring to him as "Mr. ITCA." His never-ending enthusiasm for his industry is a wonderful indication of his impress upon the industry itself. We know ITCA members feel that way, too.

The convention endorsed the proposed standard listing of ledger accounts which was presented to the convention by the ITCA Accounting Commission, of which Arthur R. Tichenor of Elizabeth, N. J., is the chairman, and approved the Standard Trade Customs and Practices and the Code of Ethics which have been in force for the past several years.

Technological Developments Dominate Meet

The 1953 annual convention of the International Typographic Composition Assoc. was dominated by exhibits pertaining to technological developments in phototypesetting as well as discussions centering around photomechanical and mechanical developments for the type composition industry. That sentence is a mouthful in which we are trying to report that the exhibits and discussions reflected the gradual amplification of method which is occuring in the composition industry. For the first time, Executive Director Sherman of the ITCA brought together in one place exhibits pertaining to phototypesetting.

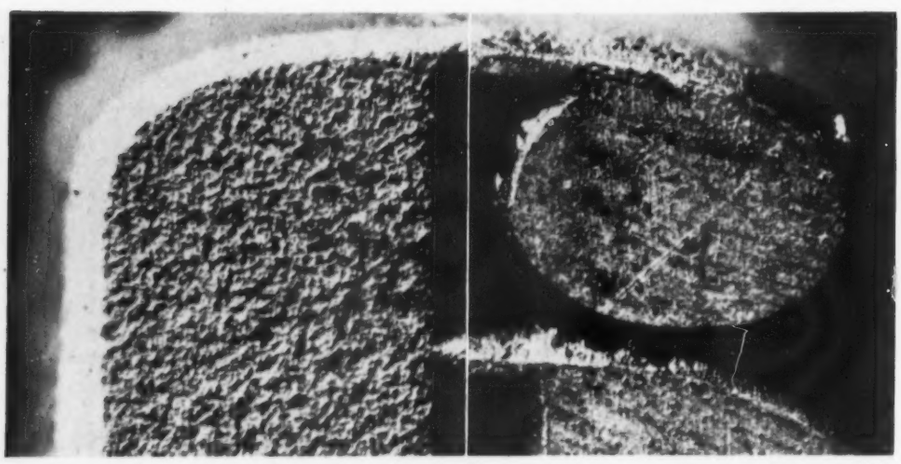
While a number of equipment manufacturers are reported to be readying phototypesetting equipment for early announcement, as well as a couple who have previously announced equipment for that purpose, they did not exhibit at the ITCA meeting. Mergenthaler Linotype Co., as previously announced, will have its first machine ready this fall. American Typefounders has already placed the Hadego Compositor in a number of plants, and reportedly, is working on a phototypesetting machine for general use. Halber Corporation, which manufactures a small letter-at-a-time display photo typesetting machine did not exhibit.

A still exhibit consisting of lighted panels showing what can be done with the Fotosetter was sponsored by Intertype Corporation. The panels were devoted to Fotosetter type production for newspaper, trade composition and book typesetting together with pictorial explanations of film manipulation and machine operation. At the Friday morning session, Intertype Corporation also showed its sound motion picture *A New Era in Printing*, in which operation and use of the Fotosetter was explained in excellent manner.

The frozen model of the Photon machine, developed by Graphic Arts Research Foundation, was exhibited. William Garth, head of the Foundation, and the developers (Messrs. Higgonet and Moyroud), and a number of assistants were also present to demonstrate the machine. Operation of the machine is entirely by push-button. There is an electrical typewriter (one at each side of the main keyboard) for controlling type size, line width, justification, and other necessary adjustments. The cover for the photographing unit was kept raised throughout the demonstration so visitors could view automatic operation of the photographing unit. Product of the machine is film ready for use in platemaking operations.

Exhibited for the first time was Lanston Monotype Machine Co.'s Monophoto phototypesetting machine. The machine is actuated automatically by the paper ribbon as punched on the standard Monotype keyboard. The paper ribbon is placed in a modified form of hot-metal caster for automatic production of the type film. It was explained that the ultimate operating speed of the photographing unit will be 240 characters per min. At the ITCA exhibit, however, the machine was operated at a much slower speed to enable viewers to more easily comprehend operation and function of the machine. The same unit system as employed in operation of the hot-metal Monotype is retained in the phototypesetting equipment. Composition range of the machine at present is from 4½ pt. to 24 pts., and in line widths up to 60 picas. Products of the machine are film or paper positives and negatives for printing plate production. Variable line spacing can be obtained easily.

Halftone reproduction (approx. 50 diam.) of a 14 pt. Ultra Bodoni lower case a. At left is section of the type cast from a matrix treated by the Jernt process. At right is section of another type cast from a matrix which has not been treated by the process. **(See Page 65)**



Curle Slug Corrector

The resurrected Curle Slug Corrector operating exhibit was supervised by Edward Johnson of Curlesaw, Inc. It has been announced recently that manufacture of the equipment has been resumed and the company will also service outstanding saws and/or supply repair parts.

Fisk Industries, Inc.

Sol Cantor, President of Fisk Industries, Inc., exhibited three of his developments for the repair and maintenance of linecomposing machine matrices. These tools are the Align-A-Mat, Clean-A-Mat and the Align-A-Drill.

Photos by F. McDaniel, Washington, D.C.

Three of the Major Phototypesetting Equipments were demonstrated and exhibited at the convention of the International Typographic Composition Assoc., Hotel Mayflower, Washington, D. C., Sept. 3 to 5 inclusive.

1.—A large still exhibit was sponsored by Intertype Corporation. Work for which the Fotosetter is adapted was shown on illuminated panels.

2.—The Photon, Graphic Arts Research Foundation's now frozen model, was operated and demonstrated. Visitors could peer into the innards to get a view of the automatic photographing section of the machine.

3.—Lanston Monotype Machine exhibited its type composition unit and standard Monotype keyboard. The paper ribbon produced on the keyboard is inserted in the photographic unit and the film is exposed letter by letter automatically. The monotype unit system is employed in the photographic unit.

New Developments for Composing Room

New equipment and devices for the composing room developed during the past year or so were described and discussed by MacD. Sinclair, Editor of *Printing Equipment Engineer*. Among them were the Vandercook page makeup gauge, the No. 22 galley proof press, type face knurling device, anti-workup knurler, island makeup units, Greer rolling tables, a couple of work simplification devices, a new reproduction proof paper, the Cantor Align-A-Drill and a

Edward Johnson, Curlesaw, Inc., exhibited and demonstrated the Curle Slug Corrector at the recent ITCA convention in Washington, D. C. Firm has resumed manufacture of equipment.

number of Teletypesetter accessory improvements.

Bendow Discusses Quadder

Emil Bendow, Sales Mgr. for Linotype Parts Co., discussed that firm's Hydraulic Automatic Quadder for attachment to any 30 pica Intertype or Linotype. He explained the hydraulic action whereby the vise jaws move against the line with smooth action. He also explained that the short line safety-electro pump stop does not move the pump stop from beneath the pot pump lever unless the left end of the matrix line comes within 0.004 in. of a plunger in the left vise jaw which in turn closes a micro switch for actuating a solenoid in the pump stop bracket. Operation of the quadder is independent of machine operation, he said.

Olson Discusses Type Reproportioning

Raymond B. Olson, President of Modi-Graphic, Inc., discussed the Fotomaster Camera. This camera, he explained, is made especially for composing room use in producing type photographically on paper or film either in reproportioned or enlarged form. He also explained that a photographic negative such as is used in photomechanical methods can be enlarged from 12 pt. size to more than 2 in. without apparent roughness or loss of detail. This camera equipment enables the typographic compositor to carry a considerable number of type fonts each in one size so that many sizes can be reproduced. He said: "In the case of a rush job which is to be set in 48 pt. caps, perhaps you'll find only two cap Es in the case. Somebody beat you to the draw by chopping off the other two cap Es to make Fs out of them. This never happens with the photographic method."

He explained that type circles or type set in wavy lines by means of tin can lids and broomstick sections together with plaster of paris or molten metal can be reproduced accurately and quickly on the Fotomaster Camera.

The Fotomaster Camera permits flexibility in the layout department. In a line that will fit into a space when reproduced in 93 pt. instead of 72 pt., the camera can be used to accomplish that result. Other modifications of type lines and-or letters were explained by the speaker.

Linecasting Machine Maintenance

Preaching a homely sermon about maintenance of line-composing machines and matrices, Sol Cantor, President of The Composing Room, New York, N. Y., graphically illustrated his comments by holding up two Cellophane ribbons. Encased in one ribbon were 20 matrices costing $5.30. In the other were encased enough quarters and small change to equal $5.30. In this way he illustrated that the cost of the average channel of matrices in the magazine (including various point sizes plantwise) costing $5.30 when multiplied by the 90 channels in the magazine makes matrix fonts rather costly—and well worth taking care of. He explained at the outset that his remarks were not exactly new but in connection with the typographic composition business could bear repetition. In the past matrices were not too costly and were easily obtained. Constantly rising costs, however, are changing the picture. Thus many jobs suffer typographically because of the higl. cost of matrix replacement and the long wait in some instances for sorts matrix orders to be filled discourages management from making new purchases.

In today's operation of machines, matrix equipment must be maintained in top condition because the demand for reproduction proofs and transparencies for offset and gravure platemaking is on the increase.

He explained slowly and carefully: "It is much cheaper to buy replacement matrices ahead of time—it takes from two to six weeks to have orders filled—than to suffer poor production due to shortage of matrices. Sort up all matrices picked up from the floor around the machines; clean them, examine for damage and run them into their respective magazines. In many plants these matrices are placed in

(*Continued on Page 65*)

Distortion or Reproportion or Modification?

Raymond B. Olson, President of Modi-Graphic, Incorporated, discussed his company's Photo-Master Camera before the recent ITCA convention in Washington, D. C. In the address he referred to the term "type distortion" as used by some people in the Graphic Arts industry.

He asked: "What does distortion mean? A good example would be to pull a proof on thin rubber sheeting and stretch it. That's distortion without definite control of shape or size." In type reproduction by photography where the characters are to be changed in form or dimension, Olson explained that type reproportioning or modification is done with precision prisms; the operator can see the image on the camera's ground glass and thus knows exactly what the finished results will be without mathematical figuring.

The term reproportioning in connection with photographic type reproduction, it seems, dignifies the means for obtaining the desired result by controlled method rather than to use a term which implies an unpleasing image or uncontrollable means of reproduction.

ITCA OFFICERS

At the Washington, D. C., convention of the Intl. Typographic Composition Assoc., Hotel Mayflower, Sept. 3 to 5, the following officers were elected:

President—Harold L. McGirr, Monotype and Linotype Corp., New York, N. Y.

First Vice Pres.—J. Harry Wimpenny, Cornish & Wimpenny, Toronto (Ont.) Can.

Second Vice Pres.— Harold R. Datuma, Reliance Typesetting Co., Chicago.

Treasurer—John W. Shields, Bridgeport, Conn.

Ex. Director and Secy.—Frank M. Sherman, Jefferson Bldg., 1015 Chestnut St., Philadelphia 7.

Regional Vice Presidents—Northeastern, Frank Lightbrown, Boston; Mid-Atlantic, Donald M. Canfield, Utica, N. Y.; Southeastern, C. N. Jamison, Memphis, Tenn.; Southwestern, Vernon Stamm, Houston, Tex.; Mid-Western, Joseph L. Baarlaer, Cincinnati; Pacific Coast, Robert Willison, Los Angeles; Canadian, Walter R. Adamson, Mono-Lino Typesetting Co., Toronto.

Executive Committee Members (3 yr. term)—Siegfried Mamerow, New York, N. Y.; C. P. Wolfensperger, Rockford, Ill.; Wallace Van Houten, Houston, Tex.; Richard Fennelly, Hamden, Conn.; Oscar Ouellette, Montreal (Que.) Can.; James E. Shaw, Buffalo, N. Y.

Craftsmen Right on Ball with Technical Information at Dallas (Tex.) Convention

IT IS impossible to report all of the activities provided for the 1953 Dallas convention of the Intl. Assoc. of Printing House Craftsmen in *Printing Equipment Engineer*. This report will be confined mostly to what went on at seven technical clinics held during convention days on Sept. 14 to 16 inclusive. Homer L. Green, Manager, Wilson Engraving Co., Dallas, was General convention Chairman who, together with Clarance Akers, President both of the Ninth District and the Dallas Club, the Dallas Club members and all of the local clubs, provided a splendid program for men and their ladies. There wasn't a dull moment. The technical programs were informative and excellent, the interclub clinics certainly will be helpful to local club officers, the entertainment was delightful. Perhaps one of the outstanding events of the entire convention was the Chuck Wagon Dinner, Rodeo and Square Dance held at the Wood Ranch some 20-odd miles from Dallas. Traveling Craftsmen and their ladies from "foreign countries" coming into the Empire of Texas were thrilled no end. Total attendance was 900 men and women. In spite of the statistic that national 1953 convention attendance is off 10%, the 900 Dallas attendance exceeded that of the 1952 St. Louis convention.

During the past year, it was announced, International membership reached a figure in excess of 12,500. Individual clubs number 94.

At the opening session of the convention on Sunday night, Sept. 13, Public Printer Ray Blattenberger was introduced amid vociferous cheers and addressed the audience briefly. Col. Alvin M. Owsley addressed the same meeting upon *The United States of America in World Affairs*.

At the Monday morning, Sept. 14 session, Paul C. Clovis, President of Chicago's 20th Century Press, spoke on *The Obligations of Leadership*. His address, in serious vein, prompted much thoughtfulness particularly with respect to our economic situation.

As has been stated above, most of the Dallas convention report is being devoted to technical clinic sessions which follow these introductory remarks.

Phototypesetting —Highest Skills Will Be Required

THE Composing Room Management Clinic held on Wednesday, Sept. 16 at the Dallas (Tex.) convention of the International Association of Printing House Craftsmen, was one of the largest meetings among the clinic sessions.

Chairman of the meeting was Howard N. King, Vice President, Maple Press, York, Pa., and Typographic Counselor, Intertype Corporation. Panel members consisted of Frank Sherman, Executive Director, Intl. Typographic Composition Assoc., Philadelphia; Walter Schultz, Intl. Past President, and member of the Dallas Club; Oscar Hoffman, Superior Typesetting Co., St. Louis, Mo.; Alfred Hoflund, Denver (Colo.) Typographer; Charles J. Felten, New York (N. Y.) Typographer; and, Edwin Bachorz, Composing Room Supt., Western Printing and Litho Co., Racine, Wis.

Principal speaker at the Composing Room Managment Clinic was Frank M. Sherman. The title of his address was *The Impact of Photographic Type Composition on the Graphic Arts*. Sherman's paper was a very well prepared and analytical study of phototypesetting.

During the course of his address, Sherman said: "I see no likelihood that the ultimate cost of composition on photographic type composing machines will be materially reduced even if lower paid keyboard operators could be satisfactorily employed. Cost figures show conclusively that the wages paid to journeymen operators of typesetting machines are now approx. 1/3 of the total cost of the work turned out by them. Paying stenographers or typists 2/3 as much as we now pay journeymen operators, would save only a small percentage of the total cost of their production . . . During the couple of years since the Fotosetter has been in commercial operation, it has been proved conclusively that economical operation of photographic keyboard machines requires the most skillful and competent personnel that the industry can supply. The cost of making film corrections places a

This panel of men under chairmanship of now President Howard N. King, served during the Composing Room Management Clinic, Intl. Assoc. of Printing House Craftsmen, Dallas, Tex., on Wednesday, Sept. 16. Frank M. Sherman, Executive Director of the Intl. Typographic Composition Assoc., is speaking upon photographic typesetting. From left to right, panel members are: Charles J. Felten, New York (N. Y.) Typographer; Walter Schultz, Intl. Past President and member of the Dallas Craftsman's Club; Mr. Sherman; Chairman King; Alfred Hoflund, Denver (Colo.) Typographer; Oscar Hoffman, President, Superior Typesetting Co., St. Louis, Mo., and Edwin Bachorz, Composing Room Supt., Western Printing & Litho Co., Racine, Wis.

Elected and Appointed Officers for 1953-54 of the Intl. Assoc. of Printing House Craftsmen—First row, left to right: Immediate Past Pres. Gordon J. Holmquist, Vice Pres., Cole-Holmquist Press, Inc., Los Angeles; Treasurer Albert L. Kolb, Asst. Treasurer and Printing Dept. Mgr., Marine Trust Co., Buffalo, N. Y.; First Vice Pres. Thomas P. Mahoney, Vice Pres., Regensteiner Corporation, Chicago; President Howard N. King, Vice Pres., Maple Press, York, Pa.; Second Vice Pres. Henry A. Schneider, Corporate Secy., Charles Francis Press, Inc., New York, N. Y.; and Third Vice Pres. A. R. Tommasini, Production Mgr., University of California Press, Berkeley, Calif.

Second row, left to right: Public Relations Commission, Sol Malkoff, Tucker-Castleberry Printing Co., Atlanta, Ga.; Executive Secretary, Pearl E. Oldt, Cincinnati, O.; Membership Commission, George Wise, Superintendent, Dugan-Millis, Inc., Cleveland; Deputy Representative-at-Large, Harry R. Christopher, President, Paper Supply Co., Baltimore, Md.; Representative-at-Large, Lee Augustine, Vice Pres., Printing Machinery Co., Cincinnati, O.; Advisory Council Chairman, Gradie Oakes, President and General Mgr., Process Color Plate Co., Chicago; Deputy Membership Commission, Elmer H. Tess, Owner, T&T Party Service, Duluth, Minn.

high premium on setting the work correctly the first time.

Skill Will Be Needed

"I think it is not likely that persons untrained by experience in the production of good typography in text composition, will be able to attain that understanding of the niceties of typesetting which will match the high quality of the work which these machines are capable of producing. The clarity and sharpness of film type characters will not alone make successful the use of the Fotosetter, the Monophoto or the Photon machines—or others which may eventually be developed."

Saving Not Shown

The speaker qualified his remarks by the following observations: "It is true that in some fields of use and on certain specific kinds of work, photographic type composition will make some saving in the cost of putting type pages and forms in final form for printing or plating. However, it is the general opinion of those producers and users of this commodity with whom I have discussed the cost of production, that the cost of original composition, proofreading and correcting, developing film and assembling the film elements into final form for platemaking for offset-lithography, gravure, or letterpress, does not ordinarily show a saving when compared to the cost of doing the same work by using machine hand-fed type and makeup. The arguments used by those who are now selling and producing photographic type composition do not stress money savings as a primary advantage of this new method. Rather do they stress the clarity and the sharpness of printing which is the result of machine composition in film form; the ability to obtain typographic and design effects of various kinds which cannot be secured through the use of type; the adaptability of an original film product to have variety of uses and purposes, and the ability to secure unusual type effects on film which cannot be secured in any other way through the use of art work."

Photo Dept. Will Be Part of Production Facilities

In referring to the initial stages of a new concept of composing room operation, the speaker said: "The growth and the development of lithographic-offset printing and its accessory processes during recent years, has set in motion a demand for the production of type images in film form which can only be met by the introduction of new machines, new devices and improved techniques built around the use of the camera as a composing room tool. I predict that within the next decade, every well-equipped composing room in the commercial typesetting industry will include a photographic department as part of its facilities for production."

Enough Work for Both Methods

Sherman said: "I have no fear that our present methods of setting type by machine and hand are in immediate danger of going into disuse. I believe that photographic type composition by machine and necessary accessory processes will find new fields of production and consumption which are peculiarly their own, and that while there may be some borderline competition between the use of type and film, there will always be enough work to keep both methods fully and profitably employed."

Sherman described the action, operation and product of Intertype's Fotosetter, Lanston Monotype Machine Co.'s Monophoto, and Graphic Arts Research Foundation's Photon machine. The product of these three machines is essentially the same. The Fotosetter is an adaptation of the Intertype linecasting machine with camera mechanism substituted for the apparatus designed for casting slug lines from hot metal. The Monophoto machine is an adaptation of the Monotype single type typesetting machine and uses the standard Monotype keyboard to produce the perforated controller paper which actuates and controls the selection and photographing of type characters, one at a time, on the film.

Sherman explained that the Photon machine is an independent and original approach to the problems of photographing type characters in justified lines on film or photographic paper. It embodies a number of electric and manual controls which have not before been used in the production of type lines of any kind. Photon is a combination of keyboard and a photographic unit. It resembles a large desk with a built-in keyboard on one side and a photographic unit on the other.

Important to Train Men

Apparently, many composition executives believe it is highly important in the future to train men for laying out work for each job, or in other words, sending a blueprint along with copy to the operator in the composing room. Sherman mentioned that Carnegie Tech in Pittsburgh, and other schools, now have courses in layout. Warwick Typographers in St. Louis employ a fine layout system.

In response to a question from the floor, Sherman said all point sizes of type can now be composed up to 36 pt. Above

36 pt. the camera will have to be resorted to.

Some discussion arose as to jurisdiction in film development work. Charles J. Felten reported that in one plant in New York, ITU journeymen perform all of the work.

Sol Malkoff of Tucker-Castleberry Printing Co., Atlanta, Ga., wanted to know which machine of the three discussed by Sherman, was considered the most flexible. Sherman replied that only one is in actual production use at the moment and it would be best to wait to see what can be done with each after plant use and experience.

Phototype Copy Fitting

With respect to copyfitting systems for phototypesetting machines, Fred Hoch stated that a number of systems presently are in use. He explained his own system at some length. Harold Plaut stated that Intertype, as well as other companies, employ the character count system which basically is sliderule computation. He announced that the new Intertype Fotosetter copyfitting system to be published soon is basically the same. Plaut stated actually one can solve problems in phototypesetting with equal facility as in hot metal composition.

Carl Sorensen, Sales Manager for Lanston Monotype Machine Co., stated his company is using Monotype's hot metal type faces in the Monophoto machine so that they are identically the same for phototypesetting use. Paul Bennett of Mergenthaler Linotype Co., thinks no competent layout man will have any difficulty in charting jobs for phototypesetting purposes. However, more care will have to be used, particularly in leading and mostly in advertising composition. He added that there will be a gain in the quality of the type image, but the design of the characters as used in hot metal composition will be altered. He asserted phototypesetters will not get quality by increasing or decreasing type sizes photographically four or five sizes. One will be able to get approximation but not quality.

White Space Between Blown-Up Letters

Howard Keefe (Cincinnati), mentioned that in the phototypesetting specimen book published by Warwick Typographers, St. Louis, the space between the letters in large blowups appears very wide, and wanted to know if there was any way in which this white space could be controlled or eliminated. Frank Gottschall of Intertype Corp., said Intertype has given the subject a lot of thought and he believes it is probable that the problem will be overcome.

Third Dimension in Composition

Chairman King asked panel member Alfred Hoflund, Denver (Colo.) typographer, to discuss obtaining the third dimension in typographic design. Hoflund explained that in working with the two dimensions of width and height, tone values can be used to bring out depth or third dimension. Use of transparencies in color can be employed to bring out the third dimension. There are many tricks which can be used to secure third dimensional effects, including some of benday tints. In the discussion, one executive suggested that the Fotomaster camera or similar equipment with the proper lenses can be used to secure different type effects. Another executive suggested perspective can be secured by embossing in the press. Yet another suggested Ludlow umbra and other faces.

Edwin Bachorz, Composing Room Supt. of Western Printing and Litho Co., Racine, Wis., was requested by Chairman King to discuss work simplification in the composing room. He stated that work simplification is simply organized common sense procedure. He discussed the cutting of a hole in the wall between his composing room and the pressroom so that the chases for an imprinting job which required frequent type changes could be passed with least effort from composing room to pressroom and back again. He and his associates regard each job coming into the plant as a challenge to see what can be done to economize in handling operations in order to reduce costs.

Simplicity in Type Selection

In answer to a question, Charles J. Felten, said that in revamping the type selection in a composing room or in starting a new composing room, he was a firm believer in simplicity. For that reason, he would stick to the bread and butter type faces. In composing operation he prefers first the selection of one old style type face such as Garamond in various sizes and weights. His concluding advice was "don't load yourself up with many type faces, many of which will be of little use." Previously, Felten expressed himself as being in favor of employing the services of typographic composition houses in case of necessity, where certain type faces are insisted upon by the customer.

Harry Friedenberg (Detroit), asked if it wasn't true that in a great many instances the composing room cannot select type faces for jobs. In other words, the customer specifies the type. He also complained that a type foundry made it a practice of consulting the advertiser and not the compositor. Felten said that was why he suggested the use of the typographic compositor's services where type faces are specified in the job.

Sol Malkoff (Atlanta, Ga.), arose to remark that if a printer was a little more creative, he could tell the advertiser what type face to use instead of the advertiser telling the compositor what to use.

Establishing Production Times

Oscar Hoffman, President, Superior Typesetting Co., St. Louis, Mo., discussed establishment of cost records in the composing room. To illustrate, he explained that his firm had to train Teletypesetter tape perforator operators when first installed in his plant. Because the composing room must have cost records upon which to operate, he attached line counters to the perforators. From the counters he kept production records and established an average of all operators' production. In keeping cost records, the hour production of any particular operation must be known. Then, in estimating on work coming into the plant, the time can be projected from the production time record. During the conversation, it developed that Hoffman and A. R. Tommasini, Manager of the University of California Press (Berkeley), both use a similar system by which estimated cost is checked against actual time, and if 80% or more of that cost is realized, the operation is considered satisfactory.

The Jerndt-Peened process which consists of the surface treatment of composing machine matrices to improve printing qualities, was explained by two representatives of the Impruv-a-mat Corporation. (See article about the process on another page of this issue of *Printing Equipment Engineer*).

Officials at the Intl. Craftsmen's Nominating Caucus in Dallas were in a good humor when this picture was taken. Normally, the meeting provides a number of debates for the International officers. At this year's meeting, however, all joined forces in unanimous nomination for all candidates. From left to right are: Clarence Akers, President of the Ninth District and President of the Dallas Club, also Monotype Dept. Foreman, Egan Company, Dallas; Elmer Leach, Owner, Leach Printing Co., Des Moines, Ia.; Caucus Chairman Basil M. Parsons, Secretary and Sales Mgr., Thompson National Press Co., Franklin, Mass.; and Pearl E. Oldt, Intl. Executive Secretary.

Dry Offset, Plating Methods Small Plant Color

CRAFTSMEN attending the Offset Clinic at the International Craftsmen's Convention in Dallas the week of Sept. 14 heard a variety of interesting subjects covered by three speakers. Thomas P. Mahoney, now Intl. First Vice Pres. and also Vice Pres., Regensteiner Corporation, Chicago, presided at the meeting.

The first speaker introduced was Bernard Sears, Vice Pres. and General Mgr., Graphic Arts Corp. of Ohio, Toledo, O., who spoke on *Dry Offset and Its Place in the Graphic Arts Field*. Sears explained that the true function of dry offset is printing from a planographic surface with only the printing image receptive to ink and the non-printing areas kept

Speakers at the Dallas Craftsmen's Offset Clinic are shown from left to right as follows: Loren W. Kennedy, President and General Mgr., Kel Litho Artists, Inc., Wichita, Kan.; Bernard Sears, Vice Pres. and General Mgr., Graphic Arts Corp. of Ohio, Toledo, O.; Chairman of the meeting, Thomas P. Mahoney, Intl. First Vice Pres. and also Vice Pres., Regensteiner Corporation, Chicago; and G. N. Martin, Asst. Supt., Lithographing Dept., The Steck Company, Austin, Tex.

clean without water or other ingredients or mechanical devices. He added that its development today is, in part, a combination of both letterpress and offset printing.

Dry Offset Presses

Undercutting the plate cylinder on offset presses to allow for the 0.025 in. plate is the basic requirement for printing by dry offset, according to Sears. He said American Type Founders made several changes in its offset presses to adapt them to dry relief offset printing. The speaker described these as improvements in form roller setting and adjustment, easy removal of the water motion and dampening system, less bend in the plate at the gripper gap, better plate clamps and undercutting the cylinder to 0.030 in.

Ran 20 Million Impressions

Sears said magnesium is best suited for making dry offset plates because of its light weight, ease and speed of etching, rigidity before and after etching, and long wear. He reported that some Zomag plates have run up to 20 million impressions while ". . . regular production jobs consistently run four to five million (impressions)."

The speaker mentioned a fast-etching method for dry relief offset plates which he said does not require sidewall protection, and etches at the rate of 0.020 in. in 5 to 6 min.

Uses for Dry Offset

The uses to which dry relief offset can be put were enumerated by Sears. He said: "Line work of different descriptions is being printed successfully and forms of all types can be run by this process with quality results in large quantities. It is advantageous to run labels by this method as well as carton work and for jobs printed on special types of paper such as onion skin and news stock.

Sears cautioned that in deciding to print jobs by dry offset it is not advisable to utilize the method on short runs or runs on ordinary paper in which the design normally fits present offset and letterpress methods of printing.

Press Operation

In regard to press operation, he remarked, ". . . dampening equipment is not needed and, if possible, should be removed from the press. It was found certain types of forms print better if some makeready is used. Solid areas can stand more pressure than light open areas, particularly highlight areas in halftones. It definitely does help if such highlight areas can be relieved."

Electroplating Techniques

Application of Electroplating Techniques in Lithography was the title of the next talk given by G. N. Martin, Asst. Supt., Lithographing Dept., The Steck Company, Austin, Tex. Martin discussed applications of plating techniques in the production of bi-metal plates, repair of bi-metal plates, plating metal ink and water distribuing rollers for presses, and repairing low areas in rollers and cylinders.

He named the combinations of metals which are used in the production of bimetal plates as coper-chromium, copper-stainless steel and copper-aluminum, and added that the copper is the image-bearing metal in each case.

The speaker continued: "There is no practical way known to plate other metals over chromium. The chromium may be plated over the copper before or after the photographic resist is developed, but in either case it is applied over the copper.

"Plating of metals on stainless steel presents a problem in obtaining good adherence. The stainless steel surface is not uniform in its chemical nature. This lack of uniformity often is a contributing factor in the failure of copper to adhere strongly over the entire surface of the plate.

"The chemical plating of copper on aluminum deep-etch plates is simple and has the added advantage of giving tones identical with a regular deep-etch plate. This plate can be put into operation in a plant with practically no alteration of deep-etch operations. Practically every offset supply house can supply the materials to make this plate.

Shortage of Color Craftsmen

Craftsmen attending the Offset Clinic were told by Loren W. Kennedy that there is a future in color printing for the small and medium size offset plant. However, there is an acute need for training workers to be skilled color artists, dot etchers and process color camera operators. He stated there are less than 1500 workers which could be classed in this skilled category, far too few for the 3000 offset plants throughout the country.

According to Kennedy, who is President and General Mgr. of Kel Litho Artists, Inc., Wichita, Kan., facilities are not adequate for the proper training of future color craftsmen. He added: "A surplus of color artists is not anticipated for several years to come."

Must Rely on Platemakers

The speaker continued: "The small plants can be expected to do very little training and certainly they are not in a position to set up and maintain a complete process color department. For this reason, the most small and me-

APPOINTED OFFICERS:

Membership Commission, George Wise, Cleveland

Deputy Membership Commission, George Mitchell, Hamilton (Ont.) Can. and Elmer H. Tess, Duluth, Minn.

Publications Commission, George E. Hogan, Baltimore, Md.

Public Relations Commission, Sol Malkoff, Atlanta, Ga.

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Club Bulletin Service, Thomas J. Tierney, Boston

Club Programs and Instruction Literature, Harold G. Gale, Fort Worth, Tex.

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Participating Membership, Harry B. Friedenberg, Detroit, Mich.

Printing Week, Ferd Voiland, jr., Topeka, Kan.

Safety, Peter Bernard, New York, N. Y.

Supervisory Training, William Gutwein, Louisville, Ky.

Graphic Arts Education, Byron G. Culver, Rochester, N. Y.

Historian, Howard Keefe, Cincinnati, O.

Advisory Council, Gradie Oakes, Chicago

dium sized plants must turn to the trade color houses for the negatives or positives and in some cases, for color plates."

Kennedy advised offset printers to use platemaking plants equipped with step-and-repeat equipment for plates requiring multiple images. He added that trade houses are able to furnish contact positives for plating which permits normal exposure with no burning out in the highlight areas and the plate can be processed normally.

Prove With Same Ink and Stock

Continuing, Kennedy added: "If the pressman will ask his boss to have the trade house proof on the same stock he must use for the job and to use the same inks he must run, he will have little trouble in matching a set of progressive proofs."

On the future of color printing for the smaller plants, Kennedy said: "With numerous installations of multi-color press equipment throughout the country, one begins to feel that perhaps the small or medium sized plant will not have a place in the color field. However, you must realize that the larger the press equipment, the more costly the plates will be and the need for long runs for economical production. This means that short runs are not profitable on large presses. So there is a very definite need for the small or medium sized plants and their equipment."

Small Print Shop Executives Told Survival Facts

THE formula for starting small and growing big in business is to buy right, produce efficiently and sell intelligently, said Frank F. Pfeiffer addressing the September Dallas Convention of the Intl. Assoc. of Printing House Craftsmen. But, according to Pfeiffer, varying interpretations of how to buy, manufacture and sell are the reasons for the difficulty the printing industry is facing today.

Frank Pfeiffer, Vice Pres. and General Mgr. of Reynolds and Reynolds, Inc., Dayton, O., was one of the participants in the clinic for Profitable Small Shop Operation. His subject was *Management and Sales*. Presiding at this meeting was Harold Gale, Club Program Commission Chairman and also Manager, Label Mfg. Div., Waples-Platter Co., Fort Worth, Tex.

Common Fault in Industry

Clarifying that he was referring to the printer who employs between 50 and 75 people in his business, Pfeiffer stated the common fault responsible for what is recognized as industry weakness is lack of management ability and mis-application of it.

Pfeiffer continued: "The end result of this industry fault is: (1) Our industry is full of small plants that are not going anywhere; plants that have never expanded since their origin or that have stopped expanding after a little spurt at the beginning. (2) When compared with the earnings of other industries, we show a very low percentage of profit. (3) Generally speaking, our selling methods are not creative—we seem to prefer to take the business away from our competitors on price alone. (4) Ours is one of the most competitive industries in the world in normal times. It is generally accepted in industrial circles that there is nothing more dangerous economically than a hungry printer. (5) As an industry, we have earned a reputation for inefficiency, old fashionedness, sloppy financial and accounting practices, and general backwardness.

He defined management as ". . . the efficient coordination of men, machines, materials and money" and added, ". . . there is only one basic difference between the smallest and the largest plant in the (printing) industry. In one case, one man has to do the whole job, and in the other case, one man has to supervise the doing of these jobs separately by different people. Unless they all get done in an orderly, intelligent manner, there can be no success."

Good Supervision on Extra Shift

Urging the addition of a second shift for profitable plant operation, Pfeiffer also advised, ". . . to put as good and as much supervision on for the extra shift as you have for the first." He also revealed that the purchasing of materials in the printing industry costs one-third of every dollar collected. On this point he said Mr. Average Printer doesn't think anything of letting different people in his organization buy ink, paper, bindery supplies, composition and plates. He advocated putting the purchasing of such material in the hands of one man and, ". . . letting a few competitive salesmen in the door once in awhile and see what they have to recommend."

In Pfeiffer's remarks on profitable selling, he stated: "I have mentioned that most other manufacturing industries exceed our profit averages by a substantial margin. Are we inferior to the managers of these other manufacturing businesses —so inferior that we cannot earn a decent profit on our efforts? Let's not dodge the issue. The frank answer is that 'Yes we are'. We do not have the guts that they have to insist on a price that is right. We are always looking at what the other printer might charge and not at what we should get. Most of us do not set our own prices. We let competition set them, and some of us are even silly enough to let our salesmen set our prices."

Determining Need for New Press

The subject of *Machines* at the Clinic was assigned Roy F. Kirby, Chicago Sales Mgr., American Type Founders. Kirby undertook to answer the questions *When do I need a new press?* and *What press shall I buy?* during the course of talk. Among the bits of advice offered the Craftsmen audience when buying a new press was that of weighing the advantages and disadvantages of letterpress and offset before deciding upon the kind of press to purchase.

Kirby said the answer to the first question could be found by keeping both processes in mind and determining the market, prospects, kinds of printing these require and the press capacity needed to handle the printing. He also suggested taking a look at your present customers and ask yourself: "How much printing do you do for them now? Does it keep your present equipment busy?" "If you add a press," he continued, "determine what additional printing you can get from present customers."

Small Printer Must Be Versatile

The speaker remarked that the proper selection of new equipment is an important factor in the profitable operation of a small plant. He added: "If you are a small printer, you are in a somewhat more difficult position for a number of reasons. You cannot, as a rule, select the work you want. You must take everything you can get within certain limits. Almost every job is different. You must be able to do all the work you can get, usually on one to three, four or five presses.

"The only thing a printer can sell to his customers are the sheets that come out of his press. The speed at which good sheets come out of a press has much to do with profits. Quick make-

Speakers at the clinic on Profitable Small Shop Operation, Dallas Craftsmen's Convention, are shown from left to right as follows: Roy F. Kirby, Chicago Branch Mgr., American Type Founders; William F. Gutwein, Director of Employee and Public Relations, Fawcett-Dearing Printing Co., Louisville, Ky.; Chairman of the meeting, Harold Gale, Intl. Club Program Commission Chairman and also Manager, Label Mfg. Div., Waples-Platter Co., Fort Worth, Tex.; and Frank F. Pfeiffer, Vice Pres. and General Mgr., Reynolds and Reynolds, Inc., Dayton, O.

Participants in the Dallas Craftsmen's Silk Screen Clinic are shown from left to right as follows: John Key, President, Admiral Screenprint Corp., Chicago; Paul M. Evans, Evans Printing and Poster Co., Dallas, Tex., and also Vice Pres., Southern Region, Screen Process Printing Assoc. Intl.; Barney Vaughn, Foreman, Screen Process and Letterpress Dept., Evans Printing and Poster Co., Dallas; and Chairman of the meeting, Albert L. Kolb, Intl. Treasurer and also Manager, Printing Dept., Marine Trust Co., Buffalo.

ready is also an important factor. The press you select must be simple. It even has much to do with whether you can get a job or not."

"Nursing an Old Clunker"

Referring to replacement of existing equipment, Mr. Kirby remarked: "Other obvious times to replace a press are when repairs become a costly item. Remember, no press breaks down while it is standing still—only when you have a job on it and usually a rush job.

"It doesn't pay to nurse an old clunker too far. There's hardly a man in the room that would risk taking his family to a picnic 100 miles away in a 10 year old car. Yet many a printer stakes his whole reputation as a printer, a business man, and as a craftsman on a piece of junk 30 or 40 years old. You have to plow some of your earnings back into the printing business the same as all other businesses.

"With the number of improvements going into new equipment today, any press over 10 years old is apt to be obsolete. Even Uncle Sam's Tax Department will let you depreciate a press completely in from 10 to 15 years.

Before Placing Order

Among several important points to check before placing an equipment order, Kirby named the ability of the manufacturer to provide service and repair parts. Also, he said: " . . . make sure the machine you select will go through your door without a lot of extra expense. Be sure it will go on your elevator and through your passageways. Be sure it is not too heavy for the recommended floor load of your building."

Making sure the piece of equipment is ordered with the proper electrical equipment to fit the requirements of the plant in which it will operate, was still another point to consider. Others included checking the cash discount, quoted price and what it includes, fire insurance and the costs for operating the new machine.

Compatibility on Job

The subject *Management of Personnel* was handled capably on the third part of the program by William F. Gutwein, Director of Employee and Public Relations, Fawcett-Dearing Printing Co., Louisville, Ky. Gutwein, who is Chairman of the Intl. Supervisory Training Committee, spoke on compatibility on the job between management and employees.

He said there is a definite need to investigate employees to see what stimulates them and what they want. The speaker compared compatibility at home and on the job, and added there is a definite correlation between sexual satisfaction and job satisfaction. He further stated that a large percentage of employees are frigid toward their supervisors and called responsiveness an important part of good supervision.

Gutwein suggested there is a need to know how employees are put together just as the publicized Kinsey report analyzed men and women to understand them. What workers will talk about and listen to on the job is important to good relationships between employer and employee. He advocated that workers should have constructive rather than destructive conversations on the job.

Time and Effort Needed

Gutwein reminded mechanical and production executives that it takes time and effort—not money—to stimulate compatibility between supervisor and worker. He named five ways of controlling the thinking of individuals. These were as follows: be friendly when the worker first comes on the job; be frank and tell him what is right and wrong; be fair and follow a policy of what is right rather than who is right; show faith in the worker and finally, be firm.

He told the Craftsmen that whatever stimulus and environment they can provide in their plants will result in the way their workers will think. He compared this to being able to swear at people in different ways and getting different reactions from them. Referring to five roles an individual assumes every day, Gutwein placed them in the following importance when it is necessary to make a decision: (1) Citizen; (2) Father; (3) Consumer; (4) Employee, and (5) Union member.

Press Makeready and Premakeready for Letterpress

ON Tuesday afternoon, Sept. 15, at the Press Makeready and Premakeready Clinic held by the Intl. Assoc. of Printing House Craftsmen in Dallas, Tex., Intl. Past President J. Homer Winkler presided. He opened the meeting by explaining that preliminary to the R&EC Makeready meeting to be held in Cincinnati, Oct. 1 and 2, a number of Craftsmen felt it would be a good idea for speakers at the Dallas Makeready and Premakeready clinic to discuss certain phases of both subjects, not only as a matter of general technical information but also for the benefit of those who may wish to attend the Cincinnati meeting.

The first speaker to be introduced by Chairman Winkler was O. F. Duensing, Sales Development Mgr., Vandercook & Sons, Inc., Chicago. The second speaker was Fred W. Hoch of Fred W. Hoch Associates, Inc., New York, N. Y. The final speaker was Gene Meston, Manager, Capital City Printing Plate Co., Des Moines, Ia.

All speakers stressed some type of procedure when getting ready to print letterpress forms or plates. Fred Duensing, speaking on the subject: *Minimum Makeready Through Precision Form Preparation,* said: "Letterpress has far greater possibilities than many of you think. If letterpress printers will put as much science into their process as is essential to the production of quality work by competing processes, they will lose fewer jobs to their competition."

Fred W. Hoch asserted that cylinder makeready is becoming a lost art. It is an art and not a science, for science is measured art.

Gene Meston, in speaking on the subject: *Incorporating Premakeready in*

Talks at the Craftsmen's clinic on Air Conditioning in the Graphic Arts were given by this group shown from left to right as follows: Bernard P. Smith, Sales Service Representative, The Mead Corporation, Chillicothe, O.; R. A. Gonzalez, Application Engineering Dept., Airtemp Div., The Chrysler Corporation, Dayton, O.; Chairman of the meeting, Royce N. Kent, Intl. Technical Commission Chairman and also Asst. Supt., Bemis Bros. Bag Co., Omaha, Neb.; and Dr. Paul J. Hartsuch, Lithographic Consultant, Interchemical Corporation, Printing Ink Div., New York, N. Y.

Electrotypes, said production costs are being materially reduced by incorporation of premakeready in flat and curved electrotypes by the platemaker and concluded his address by saying: "I predict in the future that most of our production printing will be from treated electrotypes."

During his discussion, Duensing said in part: "The amount of makeready is always in direct proportion to whatever inaccuracies and imperfections exist in the form and the press. Letterpress printing has always been, and still is, considered a precision industry by those engaged in it. Yet I think you will agree that few letterpress printers use precision methods. It is this lack of precision in letterpress which is directly responsible for slowing down production in letterpress plants, raising costs unnecessarily, and seriously handicapping the leterpress printer from competing with other printing processes."

Duensing discussed five printing elements which contribute to inaccuracies in the form and what can be done to maintain accuracy. The first of these (to replace wood base) is the Vandercook type metal alloy cast in cored base form in a stereotype casting box and planed to accuracy so that when plates are mounted they are within 0.0005 in. accuracy of type high through the use of a thermosetting film with applied heat and pressure. The cored base is light in weight and the metal is permanently stable.

With respect to type elements in the form, Duensing expressed the need for more exacting methods. Composing room workmen must be taught the necessity of adopting and adhering to rigid mechanical accuracy in all their operations. They must adopt more critical inspection and maintenance standards for casting machines, matrices and molds.

The speaker asked: Do you realize that throughout several hundred years of tradition-bound practices compositors have been without a tool with which they could determine the accuracy of assembled units or makeup pages? He discussed a precision makeup gauge which is so accurate in makeup that one might call it a micrometer. All pages in a job are in alignment and register and all are justified to lift to uniform lockup pressure.

To maintain the accuracy gained in prepositioning and justifying forms, strong precision chases must provide enough resistance to bowing and lockup pressure to prevent distortion of justification in the form during lockup and transportation. He said that Vandercook's experience has demonstrated that any chase with a free length of over 28 in. should be made of stock ¾ in. high and 2 in. wide if it is to retain accurate adjustment of the form. These chases are provided with a ½ in. tie bar across the short dimension.

Deadlines, paperlines and centerlines should be scribed on each chase so the lockup man has positive points from which to position his imposed form.

During Vandercook's investigation relating to press makeready it was found that presses ran year after year without so much as cursory inspection and adjustment. Beds were badly dented by carelessly dropped tools and cylinders dented from constant stabbing of the packing. Around each of these dents were craters rising as much as 0.004 in. above the surface. Worn and damaged bearers and improper cylinder setting to the bed bearers are common faults.

Speaker Personnel at Makeready and Premakeready Clinic held during Dallas, Tex., convention of Intl. Assoc. of Printing House Craftsmen. Left to right: Chairman J. Homer Winkler, Past Intl. Pres. and Technical Advisor, Battelle Institute, Columbus, O.; Fred Duensing, Sales Development Mgr., Vandercook & Sons, Inc.; Fred W. Hoch, President, Fred W. Hoch Associates, New York, N. Y., and Gene Meston, General Mgr., Capital City Printing Plate Co., Des Moines, Ia.

Impression defects may be eliminated in a press through the use of press test blocks. These blocks can be used (1) To effect proper setting of impression cylinders to bearers, (2) Eliminate dents and craters in bed and cylinder and (3) Determine nature of overlay against cylinder to correct permanent deflection.

Duensing also discussed the Vandercook Minimum Makeready Method. See article, p. 41, January 1953 issue of *Printing Equipment Engineer*.

Makeready Standards Needed

Fred W. Hoch delivered an analytical paper on the desirability of establishing acceptable tolerances in materials and machines furnished the pressman for makeready operations; establishment of standards of factors affecting makeready, collection of case histories relating to slur difficulties and cataloging causes and procedures for overcoming slurs, establishment of standards before premakeready operations for rejecting materials not within standard tolerance requirements, and establishment of standards for makeready operations for various kinds of presses.

During his address, Hoch said that inadequate roller coverage causes faulty ink film thickness in transferring ink from rollers to form. Too much or too greasy ink also causes mottling at times. Ink film runs best at deposited thicknesses of 0.0002 in. or 0.0003 in. When the required depth of color for a job demands greater ink film thickness than this, the tinctorial value of the ink should be strengthened and ink film thicknesses of 0.0002 in. or 0.0003 in. maintained.

Slurs on cylinder press impressions can, and do, cause considerable trouble for the pressman. Slurs are caused by a slippage at some location on the press in material supplied or in makeready procedure. It is difficult at times to determine the cause of the slur. The trial and error method is a general procedure for correcting slippage and slurs. Eliminating a slur can be a lengthy and costly part of the makeready operation, as the slur generally appears when the job is ready to run or at the time the job is started to run. Written records on the elimination of slurs should be kept and distributed for future use in the industry.

Hoch continued: "One never knows where and when the next slur will occur when running a printing press. The boss seldom appreciates the agony and trouble a pressman goes through in trying to eliminate a slur."

He advocated inspection of materials before the form goes to press. Among the materials to be inspected he listed photoengravings, electrotypes, line-cast slugs and Monotype type.

Premakeready in Electrotypes

As was the case of the other speakers at the Makeready and Premakeready Clinic, Gene Meston of the Capital City

MECHANICAL COMMITTEE APPOINTED

President George C. Biggers of the American Newspaper Publishers Assoc., recently announced membership of the ANPA Mechanical Committee as follows:

Chairman: Joseph E. McMullen, Milwaukee (Wis.) *Journal;*

John L. Blake, Scripps-Howard Newspapers, New York, N. Y.;

Henry J. Conland, Hartford (Conn.) *Courant;*

Leven T. Deputy, Dallas (Tex.) *News;*

William Dwight, Holyoke (Mass.) *Transcript-Telegram;*

Harry Eybers, Washington (D. C.) *Post;*

Henry Garland, Pittsburgh (Pa.) *Post Gazette;*

W. E. Gibbons, Portland (Ore.) *Journal;*

Leslie J. Griner, Knight Newspapers, Inc., Detroit;

Stephen J. Lambert, Brooklyn (N. Y.) *Eagle;*

Henry Messina, Los Angeles *Herald and Express;*

John W. Park, Chicago *Tribune;*

W. Watson Southam, Southam Company, Ltd., Montreal, Can.;

J. L. Scott, Richmond (Va.) *News-Leader and Times-Dispatch;*

Reginald Tranter, Boston *Herald and Traveler;*

Earl R. Weiskittel, Youngstown (O.) *Vindicator.*

Printing Plate Co., Des Moines, Ia., stressed the importance of eliminating waste in the pressroom by reducing press standing time. Rotary or flatbed printing presses are extremely costly when idle. He said: "While these units are standing waiting for press makeready to be cut, many hours of production time are being used in an operation that can be and is being completely eliminated in many pressrooms."

He noted that rotary press operations cost from $40 to several hundred dollars per hr. Flatbed presses also vary in cost from $5 per hr. upward.

He defined the fundamental objective of the pressman in makeready operations so that he can print his plates in such a way that the graduated surfaces of the plate will exert pressure upon the paper in relation to their value. Solid areas exert the greatest pressure and should be controlled so as not to produce a slurred effect in the printed image.

In discussing relieved plates he said the areas in the plate having the greatest diameter rotate at the highest speed. It is also recognizable that the areas of greatest diameter press hardest against the paper when the impression takes place. These areas having the greatest diameter rotate faster than the peripheral speed of the packing cylinder. This causes a slight slippage resulting in rapid wear of the plate, and if serious enough, will cause a slurring effect in the print. Thus when premakeready is built in the press plates under accurately controlled conditions and all like images running in the color form are treated with the same treating mats, more accurate controls are maintained . . . Tolerances measured in thousandths are accurately controlled so that each plate can be quickly underlaid to the high point of the plate for the proper plate printing height. This underlaying can be done in advance before the plates are mounted on the press plate cylinder. He continued: "Users of premakeready plates are finding that their presses (flat or rotary) are getting into production in less than half the time than when using customary pressroom makeready."

He described the Bishop process for premakeready of electrotype plates in which top and bottom 3 ply mats are cut away as opposites and one mat is placed beneath the plate while the other is placed on top, the sandwich then being subjected to pressure in a special Bishop plate rolling machine which raises the solid areas and depresses the highlight areas in halftones, including proper height relationship of the middletones.

Much Can Be Done To Condition Air in Printing Plant

THE old saying that everybody talks about the weather but nobody does anything about it is no longer true, proclaimed Dr. Paul J. Hartsuch, one of the principal speakers at the Air Conditioning in the Graphic Arts Clinic held during the Dallas Convention of the Intl. Assoc. of Printing House Craftsmen. Dr. Hartsuch, who is a Lithographic Consultant for the Printing Ink Div. of Interchemical Corporation, said that due to developments in air conditioning much can be done now to control both temperatures and relative humidities in printing plants.

Hartsuch's part on the program covered *Air Conditioning and the Offset Process.* Two other speakers were introduced by the Clinic's Chairman Royce N. Kent, Intl. Technical Commission Chairman. Kent is Asst. Supt. of Bemis Bros. Bag Co., Omaha, Neb.

Dr. Hartsuch defined air conditioning as applied to an offset plant as being able to maintain the air at 75 to 80 deg. F. and the relative humidity at beween 45 to 50 per cent. He suggested that in air conditioning an offset plant, both temperature and relative humidity should be controlled.

Need for Air Conditioning in Photography

Mentioning the advantages of air conditioning in photography for the offset process, the speaker said: "Film does not retain exact size. There is a certain amount of moisture in all film. As the temperature and the relative humidity of the air which is in contact with the film change, the amount of moisture in the film changes, and this in turn changes the size of the film. As the film loses moisture, it shrinks, and as it gains moisture, it expands. If the film is conditioned for a couple of weeks or more in an air conditioned room, and is then shot, developed and dried in this same atmosphere, it will hold size very well, and can be used for close register work."

Weather Effects on Platemaking

Dr. Hartsuch then went on to explain what takes place in making offset plates when the temperature and humidity vary. He said: "With either deep-etch or albumin light sensitive coatings, some water is retained in the coating even when it is pronounced 'dry' by the platemaker. The amount of water which remains varies with the temperature and the relative humidity of the air. For example, as the relative humidity increases, at a constant temperature, the amount of water retained in the dried coating increases. Also, as the temperature increases, at constant relative humidity, the amount of moisture retained in the dried coating increases."

He blamed this excess amount of retained water which makes development of albumin plates difficult and tends to make them scum on the press. In the case of deep-etch plates, it is responsible for soft coatings and for the penetration of the deep-etch stencil by the developer or etch which also will result in the scumming on the press. Besides this, he

Dross Sifter Fitted to Dross Can—A considerable number of Monomelt Dross Sifters are in use throughout the country. Originally, the sifter was made so that the bottom flange would fit only *inside* the usual dross drum. However, in some instances, it has been desirable to fit outstanding sifters so that the sifter flange will fit outside the smaller dross can. To accomplish this, Charles Kellogg, Manager, Kellogg Typesetting Co., Canton, O., cut away approx. 3/16 in. from the surface of the four bosses inside the flange. First, the 5/16 in. x 18 in. rim locking screws are removed from inside the sifter flange. After cutting away the bosses, the screws may be applied from the outside rim of the sifter. The outside diameter of the dross can is 14¾ in. The Monomelt Company states that by so doing the sifters can be made so that they are equally interchangeable on both drum or can, as shown in Fig. 1.

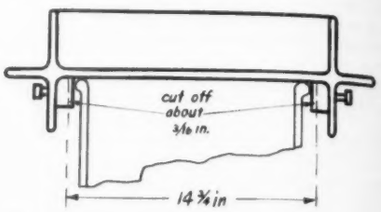
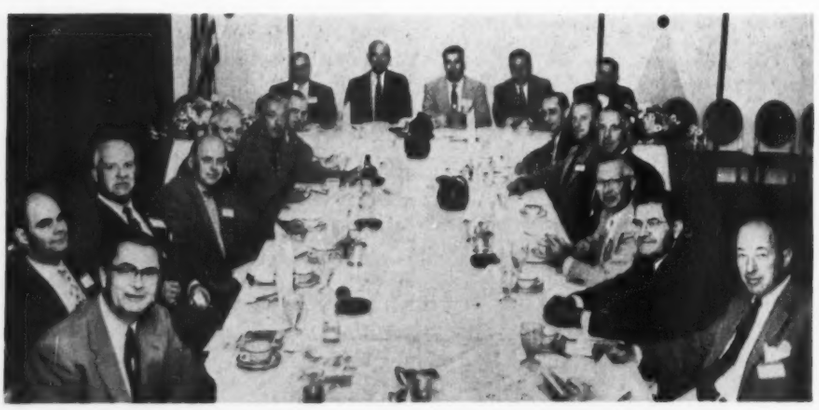


Fig. 1.—Partial cross section diagram showing how Monomelt Dross Sifter can be modified to fit metal dross cans as well as the larger dross drums by cutting approx. 3/16 in. from each of the Sifter bosses and transferring the screws to turn in from outside the Sifter.



Printers Supplymen's Guild Meet—The annual meeting and election of officers of the Intl. Printers Supplymen's Guild was held during the Intl. Craftsmen's Convention in Dallas. Some of those in attendance are shown here along with the newly elected officers. The officers are identified as follows: (from left to right at head table) Secretary Myron F. Lewis, *Graphic Arts Monthly;* President Norman Rowe, Vice Pres., Ideal Roller & Mfg. Co.; Immediate Past President Carlton Mellick, Miehle Printing Press & Mfg. Co.; and First Vice Pres. Lee Augustine, Vice Pres., Printing Machinery Co. Perry R. Long (seated second from right in photo) was named Second Vice Pres. Long is Vice Pres. of Bryan-Brandenburg Co., Los Angeles.

added, excess moisture in a deep-etch coating makes it difficult to scrub off the light hardened stencil near the end of the platemaking steps, and is often responsible for the failure of part of the image areas to take ink.

Pressroom Troubles Multiply With Weather Variations

The conditions which prevail in offset pressrooms which are not air conditioned were dealt with next by the speaker. Dr. Hartsuch stated: "Abnormal conditions of temperature and relative humidity affect the drying time of inks, and also produce undesirable changes in the paper. An increase in temperature decreases ink drying time. A particular ink which may take 12 hrs. to dry at 65-70 deg. F., will dry in about 6 hrs. at 80 deg. F. In this case, a high temperature is desirable. But a high relative humidity works the opposite way. Thus an ink which dried on a particular coated paper in 4.8 hrs. at 43 per cent relative humidity, required 9 hrs. at 80 per cent relative humidity. Usually the effect of relative humidity on drying time is greater than the temperature effect. In practice, inks dry considerably slower in hot, humid weather.

"If the pressroom is air conditioned, then one can standardize on the amount of drier, at least for a certain type of ink and a certain kind of paper, and still be fairly sure that the job will dry in a reasonable length of time.

"One trouble, namely static electricity is the result of operating at too low a relative humidity. A pressman usually does not have static trouble if the relative humidity is 45 per cent or higher. If a pressroom is conditioned to the recommended value of 45 to 50 per cent relative humidity, the pressman will be free of most of his static troubles."

Pre-Conditioned Paper

The topic *Paper, Letterpress and Atmospheric Condition* was covered by Bernard P. Smith, Sales Service Representative, Mead Corporation, Chillicothe, O. Among the early steps taken by the paper industry in overcoming these atmospheric variations, according to Smith, was to produce pre-conditioned paper. He said that paper which has a relative humidity of five to eight per cent higher than that of he pressroom where it is to be used, will perform most satisfactorily. This is true, he added, for both letterpress and offset printing.

Ideal Conditions for Paper

The speaker described the ideal situation as having " . . . both storage space and pressroom controlled to like temperature and humidity conditions. In the majority of cases this is not possible or economically sound. This is the principal reason why so much emphasis has been placed on proper packaging, so that the conditioning given the paper at the mill will be maintained."

The concluding part of Mr. Smith's talk covered the advantages to the printer in air conditioning pressrooms. He listed these as follows: Less paper troblue; Accurate register; Greater output per hour; Little space requirements; Less drying trouble; and Reduction of static. He added that it has been found that conditions within the ranges of from 45 to 50 per cent relative humidity in the atmosphere are the most satisfactory from the standpoint of the working qualities of the paper.

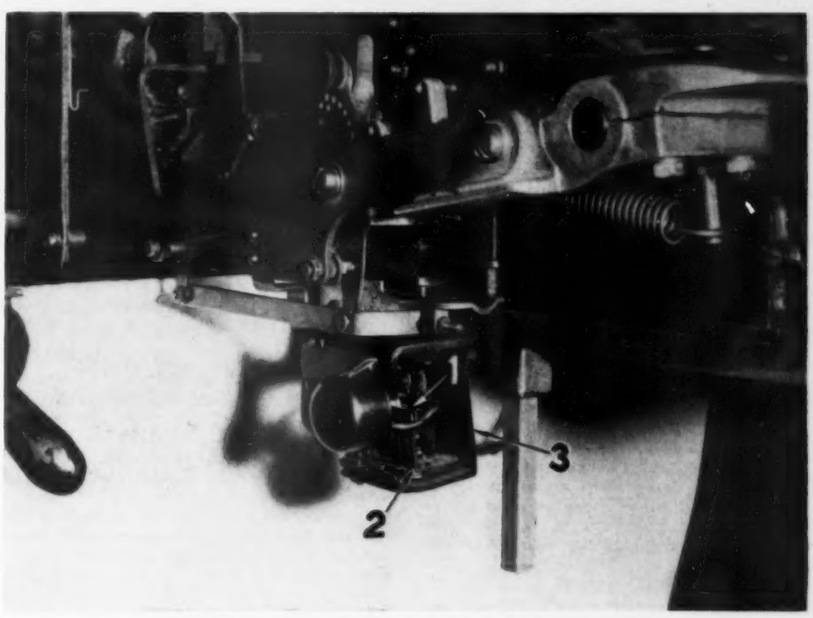
Functions of Air Conditioning

The next speaker on the program, R. A. Gonzalez, undertook an explaination of *The How and Why of Air Conditioning for Printing Plants.* Gonzalez is Manager of the Application Engineering Dept., Airtemp Div., The Chrysler Corporation.

He remarked that in addition to the control of temperature and humidity, air conditioning includes the functions of air circulation, filtering and outside air introduction. It is the simultaneous control of temperature and humidity, he added, that makes air conditioning in the printing industry different, in some instances, from ordinary human comfort air conditioning projects.

Most Exacting Requirements

Mr. Gonzalez continued: "Multi-color offset lithography has the most exacting requirements with regard to humidity. Here, the pressroom relative humidity range is usually given as 46 to 48 per cent, with the stock room to be at 5 to 8 per cent above the pressroom condition. In practice, a relative humidity control of plus or minus 1½ per cent from the

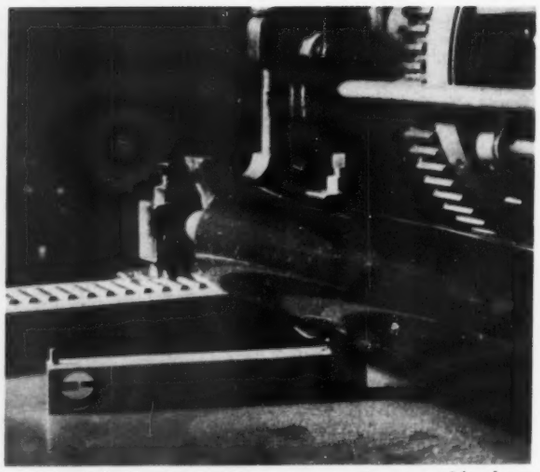


Overset Matrix Line Stop for Teletypesetter-operated Comet Linecasting Machines—General Mgr. Edward Irving Bates of the Meadville (Pa.) Tribune Pub. Co., reports that this overset matrix line stop has eliminated matrix pile-ups in the assembler chute, it has reduced machine down-time and, importantly, it has soothed jangled nerves.

Mechanical Supt. George Findlay has explained application and operation of the overset line stop device. On the Comet machine, an overset or tight matrix line will be held down by the assembling elevator latch, and, consequently, the line cannot be raised to the delivery slide. The latch is operated by a solenoid which receives its impulse from a lever and switch mounted at the rear of the assembler entrance plate. The lower end of this lever protrudes through an opening in the plate at a point above the assembler slide, at the right side of the slide's stop block. The lever is moved by the adjusting screw in the assembler slide clamp only when the line measure has been overset. Now, an overset line (without an *elevate* signal in the tape), even though latched down, will not stop the TTS keyboard operating unit. The result is that matrices pile up in the assembler chute until the operating unit is stopped manually or by a late *elevate* tape signal. Thus it can be seen that the latching system (lever, switch, solenoid and latch) is regularly built into the Comet.

The overset line control apparatus in use on Comets in the *Tribune-Republican* plant starts at the latch solenoid where its function beings. Some time ago, C. Karns Wykoff, night machinist, mounted these stops on the Comets. The device consists simply of an automobile horn relay switch, actuated by the assembling elevator latch solenoid, and wired directly to the stop-magnet block. Thus, Mr. Wykoff utilized the solenoid to stop the TTS keyboard operating unit. The solenoid, in addition to its function in operating the assembling elevator latch, also functions to stop the TTS operating unit.

In the accompanying illustration, the switch is the automobile horn relay. A pin *1* was inserted in a hole drilled in the solenoid shaft. The same impulse which latches the assembling elevator also moves the pin *1* downwardly to contact spring leaf *2* of the relay which is wired direct to the TTS stop-magnet block. The horn relay bracket *3* is mounted without drilling or tapping on the lower left side of the TTS unit frame. The wires from the switch extend to any pair of contact screws at the top of the TTS unit near the right side of the keyboard. No part of the overset control system need be loosened or disconnected when removing the TTS operating unit from the keyboard.



Roller Setting Gauge — A cleverly designed gauge for setting form rollers on cylinder presses has been developed by an employee in the Technical Trade School, Intl. Printing Pressmen & Assistants' Union, Pressmen's Home, Tenn. The gauge consists of an oblong gauge body. Mounted at one end of the body is a horizontal plate resting on a vertical plunger which in turn is spring actuated for upward movement when permitted. Inside the gauge body the plunger is connected to one end of a pivoted lever, the opposite end of which terminates and is visible through an opening in the outer end of the gauge body. There is a fixed horizontal point opposite the movable lever in the circular opening. As is shown in the illustration, the gauge is placed on the press bed with the spring actuated plate underneath the roller. The roller bearing is adjusted up or down. When the form roller has been correctly adjusted for height in relationship to the type in the form, the movable indicator point will align with the fixed horizontal point. The gauge may be ordered through Fred Roblin, Associate Editor, *American Pressman*, at $12.50 each, at the address given above.

desired mid-point is considered as a close commercial design requirement. Other types of printing can permit greater tolerances.

"In addition to helping the personnel, summer air conditioning reduces registration problems resulting from change of sheet size, improves stability of plate and photographic materials in the preparation department and provides an additional group of benefits such as improved roll life, better ink drying conditions and avoidance of rusting of machinery."

Improve Printing from Plates with Means at Hand

TWO speakers at the Letterpress Plate Clinic, Intl. Assoc. of Printing House Craftsmen convention, Dallas, Tex., on Sept. 14, suggested rather helpfully that letterpress printers and photoengravers do not employ all of the improved means and methods already at hand to improve letterpress printing and to reduce costs.

C. A. Mawicke, Vice Pres. and Treas. of Pontiac Engraving and Electrotyping Co., Chicago, reviewed at some length the many improvements which have been made in the electrotype process to provide better printing plates. Consequently, printing presses should be maintained in top notch condition to secure maximum printing quality from high quality electrotypes.

Gradie Oakes, President of Process Color Plate Co., Chicago, in a brief but forthright address, advised letterpress men to take advantage of existing means for cutting photoengraving costs. He remarked that the letterpress process sometimes is accused of operating in the horse-and-buggy age. He related: "A lot of guys have said to me 'What do I care? There will always be letterpress as long as I live.' And I said 'Yes, and there will always be horses and buggies, but there won't be so many of them.'"

Every Job is a Problem

"In the printing industry, every job that comes into the plant presents a problem," said C. A. Mawicke, Pontiac Engraving and Electrotyping Co., Chicago, in discussing *Electrotypes Are Best*. In some instances, the thinking habits of responsible people in the plant are faulty and are hard to overcome. Much dependence upon judgment in the plant is a regular thing because printing is not a pushbutton affair. Mawicke asserted that in many instances an electrotype is claimed to be unfit for printing or defects are claimed to appear in the plate. Unfortunately, many pressmen place the blame for poor printing upon the plate rather than recognize that the pitch line of the press may be out of adjustment, or the ink or paper might be at fault.

Mawicke reviewed improvements in making electrotypes over a fairly recent period of years. Plastic electrotype molding, endless chain equipment method for producing electrotypes in one operation, deposition of copper and nickel shells, backing of shells, the centrifugal method of backing curved plates, the Westcott & Thompson method of cast-curved electros, the roughing and shaving machines for shaving plates to desired thickness, Bishop Consoleveler, Bista method of premakeready for electrotypes, and other methods of more or less importance provide the printer with precisely dimensioned electrotypes.

Mr. Mawicke warned his audience that all of the improvements in electrotype platemaking are of no consequence unless you—the pressman, the printer, or the proprietor—recognize that in order to do the job well, printing plant equipment must be in top notch condition at all times. The gears and the pitchline on presses, the form rollers, the type and kind of ink, as well as paper and good housekeeping, all play an important part in quality printinig.

Mawicke enumerated a number of services in addition to routine orders, which the electrotyper is willing to render to his friend the printer. In brief form, these are as follows: (1) Where jobs are run on the press for a long time, it is good practice to order safety molds. In case of a smashup or breakdown one can quickly order a plate made over just by going to the telephone. (2) Book publishers have found it advantageous to order safety molds before the original book is printed so that in case of a best seller, the molds are ready for electrotyping purposes. (3) In many cases where jobs are to be run in two colors, the printer can set up the form as a one color job and let the electrotyper break up for color. (4) Where intricate tabular matter, requiring ruled spacing, is used, it is often less expensive and costly to have your electrotyper make wax engraving of the form. (5) Printers could save themselves a good many headaches by ordering 16 ga. electrotypes of their type forms and having these patched together with the originals rather than cut mortises in wood blocks and fuss around with spring in forms, thus avoiding the ever-present danger of workups. The job will be easier made ready and will be running sooner. It's better to patch a 16 ga. electrotype of type matter into an original black plate than it is to etch it and make a combination plate by photoengraving. (6) On certain types of work it might be advisable to ask your electrotyper to make pattern electros of original plates, especially where changes have to be made or are contemplated for the future. By so doing you will retain all of the fidelity of the original without damaging it and at a future date these pattern plates can be remolded for press platemaking. (7) An electrotyper can furnish you with hand-cut tint plates to fit around a subject to enhance the appearance of a varnished job. His ability as a patcher and his ability at correcting plates is phenomenal.

(Continued on Page 61)

What Really Happens To Rubber Printing Plates

(Reprinted from the August 1953 issue of *The Mosstyper* published by Mosstype Corporation.)

What happens when you squeeze a rubber plate? Does the rubber mushroom, as shown in Fig. 1—or does it expand, as in Fig. 2? Lots of folks who haven't really thought about it just naturally assume that Fig. 1 represents the right

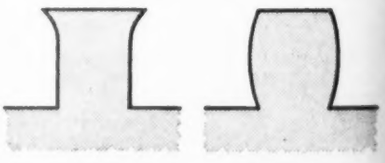


Fig. 1 Fig. 2

answer. But 'taint so—rubber is essentially fluid and, therefore, not compressible. Like water, it takes the lines of least resistance, billowing outward away from the points of pressure. So, you see, excessive squeeze in printing doesn't really mushroom the rubber plate surface. However, for all practical purposes, it appears to produce that effect because it tends to squeegee the ink on the web. It's all strictly academic . . . but we thought you'd like to know anyway.

Uniform Web Width Requested

AT THE three day Eastern Div. SNPA Mechanical Conference held the latter part of August in Atlanta, Ga., the composing room group of executives passed a resolution calling for national adoption of a uniform paper roll web width of 62 in. with a page column width of 11 picas, 6 pts. The resolution was passed after considerable discussion regarding the use of 64 in., 62 in. and 60 in. roll widths by some newspapers.

Harry Eybers, Production Mgr., Washington (D.C.) *Post*, spoke on *Newspaper Mechanical Departments Faces Toughest Challenge in History*. The increasing difficulties were attributed by Eybers to rising newspaper costs and cheaper per unit costs of television, magazines and other competing media. Newspapers, he said, must keep pace with color in advertising and in news pictures and he asserted: "We are going to have to start catching spot news in full color." Eybers feels management is making a mistake when it implies that a printer, pressman, stereotyper or engraver can be trained to become a journeyman in one year.

On Sunday afternoon preceding the conference the Machinist group meeting was held with more than 80 mechanical department delegates in attendance. James B. Parker of the Greenville (S. C.) *News-Piedmont*, conducted the meeting.

On Sunday evening a meeting of the Mechanical Superintendents & Production Managers was held, under the leadership of L. H. Pickens of the Greenville (S. C.) *News-Piedmont*. Talks were made at this meeting by J. Duncan Muse of Tucker Wayne & Co., Atlanta, and Harry Eybers, Production Mgr., Washington (D.C.) *Post*.

New Conference Officials

C. L. Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal & Sentinel*, was re-elected to serve as chairman of the conference for 1954. L. H. Pickens Mechanical Supt., Greenville (S. C.) *News-Piedmont*, was elected vice chairman for 1954.

New Executive Committee members elected for a three-year term to expire in 1956 are: James Dorris, Knoxville (Tenn.) *News-Sentinel*; Paul White, Norfolk (Va.) Newspapers, Inc.; Earl Boyd, Montgomery (Ala). *Advertiser-Journal*; and Earl Denning, Atlanta (Ga.) Newspapers, Inc.

Hold-over members of the Executive Committee are: (term expires in 1954) C. L. Ray, Winston-Salem (N. C.) *Journal & Sentinel*; Roy Vickery, Atlanta (Ga.) Newspapers, Inc.; Earl A. Hutto, Fort Myers (Fla.) *News-Press*; C. T. Cargile, Murfreesboro (Tenn.) *Daily News Journal*; (term expires in 1955) Boyce Brogdon, Knoxville (Tenn.) *News-Sentinel*; Cliff Wilkinson, Huntsville (Ala.) *Times*; M. M. Hussey, Tampa (Fla.) *Tribune* and James B. Parker, Greenville (S. C.) *News-Piedmont*.

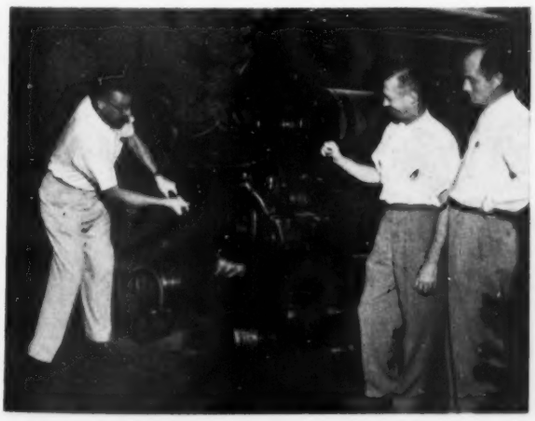
Ray B. Crow of the Nashville (Tenn.) SNPA office served as conference Secretary.

The 1954 conference will be held on August 24-25 in Montgomery, Ala., hotel to be announced later.

Operator Trundles 1 T. Load Up 15 deg. Ramp— The ramp shown in this illustration is the only entrance to a small label and carton plant in a Chicago loft building. It was desired to eliminate the necessity for calling half a dozen men from production work to inch the loads over the ramp. It was decided to install a Barrett Electric Power Ox Lift Truck to transport loads over the ramp. The battery powered truck lifts and lowers loads and travels electrically through push button operation. The truck is also used to move work in process from one machine to the next.

Plant Planning Note

The etching room of Stearns & Co., Chicago, has been remodeled and equipped with new machinery. Dust-collecting wood walls have been covered with panels of Masonite ¼ in. Tempered Presdwood. Sealed and waxed, the smooth surface catches only small amounts of dragon's blood dust, which is removed about once a month with a broom. The new walls are said to provide a better appearance and are resistant to accidental bumps from plates. Cleanliness, too, is important.



Fitting End for Long Service— Noting the current trend of many firms toward protecting the printing industry from obsolete press competition, President Harry E. Brinkman (left) ordered an old Harris S7L offset printing press broken up for scrap. This was the first press ever to be bought by Brinkman's firm, Cincinnati Lithographing Co. Decision to junk the old-timer came when Brinkman purchased a new Harris 42 in. by 58 in. single color press. Waiting to take their turn with the sledge hammer are Richard W. Fischer (center), Plant Supt., and Frank J. Geers, Asst. General Mgr.

ANPA MECHANICAL RESEARCH COMMITTEE

The members of the Mechanical Research Committee of the American Newspaper Publishers Assoc., have been announced by President George C. Biggers as follows:

Franklin D. Schurz, Business Mgr., South Bend (Ind.) *Tribune*, Chairman;

Louis G. Buisch, General Mgr., Hornell (N. Y.) *Tribune;*

Ralph R. Cranmer, Business Mgr., Williamsport (Pa.) *Grit;*

George L. Green, Production Mgr., Providence, (R. I.) *Journal and Bulletin;*

R. L. Jones, jr., General Mgr., Tulsa (Okla.) *Tribune*, and

J. L. Stackhouse, Publisher, Easton (Pa.) *Express*.

The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

XV—COLOR CORRECTING CONTINUOUS TONE NEGATIVE

WITH our set of separation negatives chemically corrected, the artist is ready to proceed with the job of retouching and preparing the negatives for re-photographing.

It is assumed that our imaginary set of negatives are of the matte type glass plates.

This writer has found that Turquoise lead pencils are the best for use in retouching continuous tone matte negatives or positives. They are well graded and uniform in all degrees of hardness and softness. Grades HB and 2B are the most adaptable to the artist's needs. The pencils should be sharpened to a long tapered point with the lead extending from ¾ in. to 1 in. beyond the wood casing. It is important that the pencil be well pointed at all times.

A sanding block pencil sharpener should be always at hand as well as a small container in which all powdered graphite should be saved. The powdered graphite is used as a retouching medium.

In addition to the pencils, a supply of hard wrapped paper stumps should also be at hand ranging from No.'s 1 to 4. Except in certain instances, soft, spongy artist's stumps should be avoided, because with use, the hard wrapped stumps will acquire a suitable degree of softness more adaptable to the needs of the correctionist.

Procedure

Taking the first of the set of separation negatives, the artist begins to pick out specific highlights and areas in which none of the particular color is to appear. He begins to opaque these areas with a fine pointed pencil, No. 2B. The artist will then proceed to carefully outline the transparent image with a sharp pointed No. HB pencil.

Any highlighted or outlined spots or areas requiring a soft or vignetted blend are treated next with a paper stump. With use of the paper stump, the graphite in the outline or pencilling marks will be spread out to blend with the image graduation or tone and a close match to the silver image.

Attention is then given to the most transparent portions of the printing image, comparing them with the graduated gray scale image recorded on the negative. Certain transparent areas may be rendered more dense or less transparent by stumping them with powdered graphite, or by applying the powder with a tuft of cotton batting.

Pencilling and stumping is a manual means of intensification of the continuous tone negative.

When all necessary pencilling has been done, the negative is carefully compared with the original copy, to learn whether additional chemical treatment is needed before opaquing.

Additional chemical treatment may be safely undertaken at this stage of operations because the graphite, being a lubricant, will repell water and photographic chemicals, without fear of damaging the work already performed. No hard or brisk rubbing with cotton or similar material should be attempted, however.

With all chemical processing and necessary pencilling and stumping completed, we can now proceed with the opaquing operation.

Which opaque to be used should be determined by the artist. Since there are several kinds of opaque available to the trade, it is important, in this instance, that an opaquing material with an affinity to both gelatine and graphite be used.

Using a suitable red sable artists' brush, properly thinned opaque is applied to the retouched negative in such a way that the pencilled outline will be split or divided. All small areas will be rendered completely opaque while the larger areas will be opaqued around the outline to a width of about ¾ in. to 1 in. wide.

When dried, the negative is turned over and the back side is masked with golden rod paper. Windows are cut in the paper exposing the areas to be reproduced, including all register and dimensional marks.

Staining

With a set of hard surfaced, smooth coated dry plate separation negatives, we are faced with the problem of making corrections with stain. Let's take a look at some of the stains; their relation to safelights and filters; what purpose they serve; and their effect, if any, on photographic emulsions and sensitizers.

Color blind emulsions, generally used for line reproduction, are of two speeds. The slower speed emulsion may be safely processed under any safe light not transmitting violet or blue radiations. Recommended safelights are yellow or yellow-green in color. Faster color blind emulsions should be processed under a Series No. 1 safelight because of the extended sensitivity of this particular type of emulsion.

No color filter of any kind or color is used or recommended, on either type of emulsion. As a consequence it is evident that stains of any kind or color will be ineffective and will serve no purpose.

Orthochromatic emulsions are processed under a Series No. 2 red safelight because their sensitivity range do not include red rays. These emulsions are sensitive to greens and blues, therefore, Wratten filters K2 (Yellow), G (Green) and C5 (Blue) are used and recommended.

By comparing the safelight, color sensitivity and color filters in relation to the stains to be used, we learn that a red dye or stain will act like an opaque and will not register or serve any purpose as a retouching medium except when greatly diluted and extremely weak in color.

To have any effect upon the activating light rays affecting the orthochromatic emulsions, dyes and stains similar in color to those of the color filters should be used as retouching mediums on smooth type continuous tone negatives. These dyes and stains should be yellow, green or blue in color.

The degree of dot size and density of the halftone positive or negative depends upon the concentration of the dyes and stains and, how and why they are applied.

Black or gray stains are preferred by some operators because they tend to blend in with the grayness of the negative. They are dangerous however in that overcorrection is an ever present hazard, especially when work has been interrupted for any period of time. Some instances are known where a job was overcorrected after a negative had been left overnight or over a weekend. Areas previously corrected were restained because the operator had forgotten and could not immediately detect where the stain had been applied.

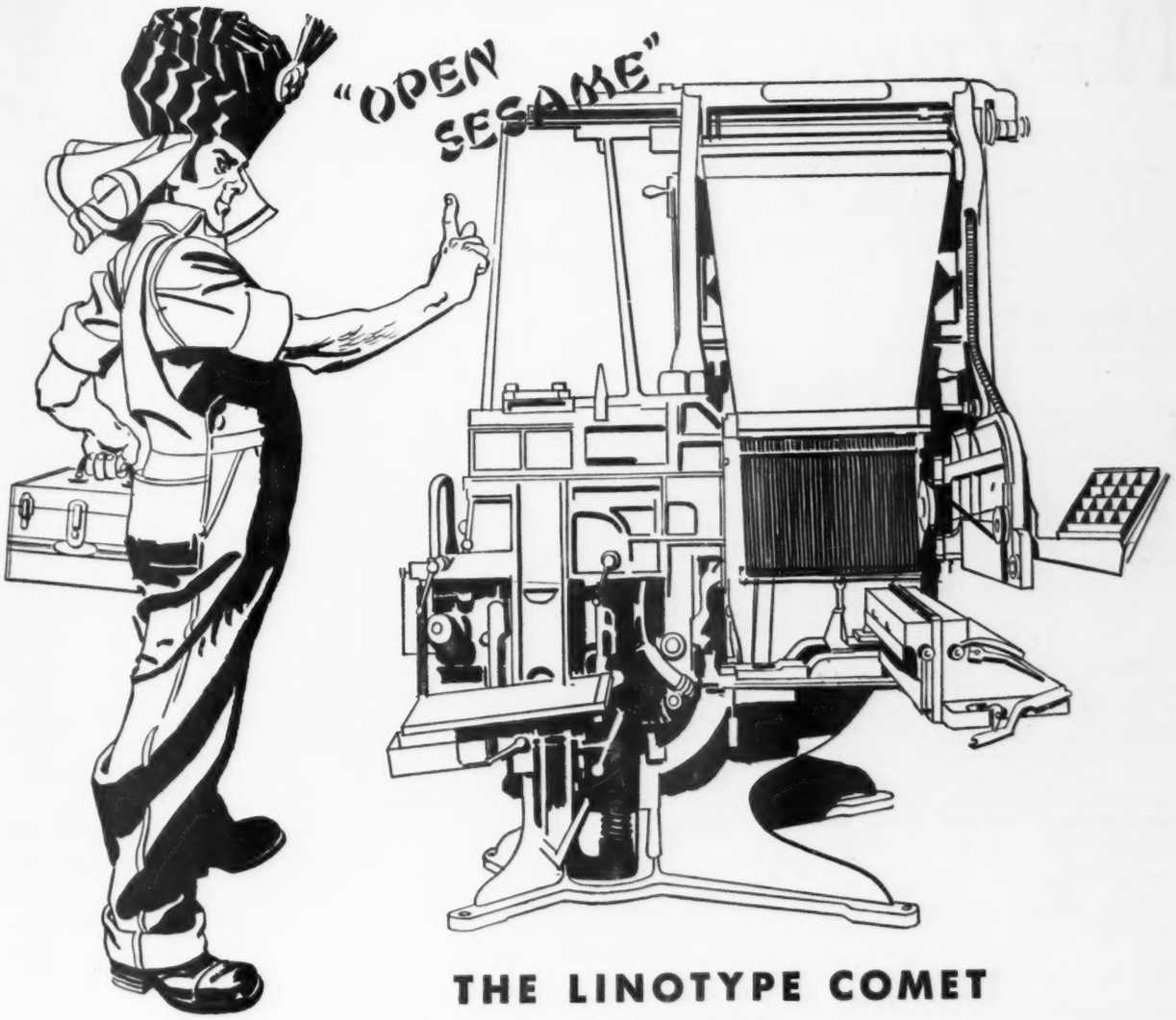
The black and gray stains are ideal for work on continuous tone positives, but when it comes to continuous tone negatives, use color and be safe. Whether a negative lays for 10 min., overnight or for 10 yrs., color dyes will always be noticeable. There is no element of chance, and any possible under or over correction can be easily remedied without confusion or wrong methods.

About Stains

One of the most important things to consider about the retouching dyes is their possible effect upon the health of the operator or retoucher.

Few, if any, of the commercial dyes available to the trade carry any indication as to the nature or source of the derivative base ingredient of the dye

(Continued on Page 67)



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II—*Inks*

For Rotogravure Printing — Toners, Varnishes, Extenders, Solvents, Evaporation Rate, Solvent Power, Odor, Toxicity

By AXEL LUNDBYE*
**Kable Printing Co., Mt. Morris, Ill.*

TONERS are inks which have from 75% to 100% more color strength than normal gravure inks. Like normal rotogravure inks, toners are three component systems. The same remarks made under *Inks* applies to toners. Their function is to contribute extra printing strength to a normal ink when used on a cylinder with insufficient cell depth.

Varnishes

Varnishes consist of two component systems: (a) Binder, and (b) Solvent.

Varnishes are employed to reduce the printing strength of a normal gravure ink when the cell depth is excessive. Usually, the addition of a varnish to an ink increases its gloss. This is so because the ink containing varnish is richer in binder (the gloss-giving component). There are several varnishes, however, which produce matte finishes, but their use at this time is very limited because the demand of the printer is for more and more gloss.

Extenders

Extenders consist of three component systems: (a) Transparent and/or translucent white pigment, (b) Binder, and (c) Solvent.

Extenders are sometimes called "pigmented extenders" and/or "base whites." Extenders have the same function as varnishes; that is, they are not quite as transparent as varnishes, but are used to reduce the strength of an ink when the cell depth is excessive. Generally they do not contribute as much gloss to an ink as do varnishes. There are circumstances when the addition of too much varnish to an ink may cause picking. In such cases, pigmented extender will cure the trouble.

Solvents

There is much that could be written about this component of an ink, but an endeavor will be made to be brief and to the point. For all practical purposes, the solvents which an ink manufacturer builds into an ink are the same in chemical and physical properties as the solvent or solvents which the printer employs to thin the ink. Since this short discourse is written for the benefit of the publication printer, and since most publication printers employ either Type A or B inks, this discussion will be limited to hydrocarbon solvents; that is, solvents which contain only hydrogen and carbon. There are two principal types of hydrocarbons, based on chemical structure—the aliphatic hydrocarbons and the aromatic hydrocarbons. Aliphatic hydrocarbons are produced from crude petroleum oil, whereas aromatic hydrocarbon may be obtained either by the dry distillation of soft coal or from crude petroleum oils, by special extraction processes or by reforming certain molecules. The user of solvents should know those properties of solvents which are of most concern in the production of good printing at the speed of the press. These properties are: (a) Drying or evaporation rate, (b) Solvent power, (c) Odor, and (d) Toxicity.

Drying or Evaporation Rate

This is a function of the boiling range of the solvent. We list in accompanying Table II the names of the more common hydrocarbon solvents as well as their relative evaporation rate, specific gravity, and boiling range.

The names and specifications of the first three named solvents (aliphatic) vary among the petroleum producers, but Table II gives one a fairly good idea of the physical properties of the petroleum or aliphatic naphthas used in the rotogravure industry. The names and specifications of the last two named solvents (aromatic) are fairly constant irrespective of the source. It will be noted that the aliphatic hydrocarbons have a wider boiling range and a lower specific gravity than the aromatic hydrocarbons. This signifies that aliphatic hydrocarbons are mixtures of a number of hydrocarbons which are difficult to separate, whereas the aromatic hydrocarbons are fairly pure hydrocarbons.

Solvent Power

Solvent power of a solvent is the ability of a solvent to thin an ink, that is, to reduce its viscosity. The solvent power can be measured in a number of ways, such as by specific gravity, dimethyl sulphate value, kauri butanol value, or aniline point. In the absence of any other laboratory tool, except an hydrometer, specific gravity is the easiest and simplest method. In a given boiling range, that solvent is the best solvent which requires the least to thin an ink to a given viscosity. On this premise, toluol is a better solvent than lactol spirits, because its specific gravity is higher than that of lactol spirits. The smaller the amount of solvent that is required to add to an ink, the greater is the amount of solids (pigment plus binder) that can be deposited on the paper web during printing. More solids usually signifies a better or smoother lay, a stronger printed image, and perhaps more gloss or sheen. An ink low in solids looks weak, flat, and sometimes rivery.

Solvent Odor

Odor of a solvent should be considered from two viewpoints: The odor of the solvent as solvent, and the odor of any residual matter in the solvent. Each solvent has its characteristic odor and there is little or nothing that can be done to change this; that is, toluol smells like toluol, and V.M.&P. Naphtha smells like V.M.&P. Naphtha, unless some foreign substance such as a sulphur compound is present. Sulphur compounds usually make their presence known too, by darkening copper cylinders, but they have no effect on chromium plated cylinders. The residual odor, which can easily be detected by noting the odor of a piece of paper from which about 1 cu. cm. of the solvent has evaporated, should be practically zero. If a solvent has a residual odor, this will most likely contribute to complaints from the ultimate user of the printed article, whether it be a newspaper, magazine, or food container.

Toxicity

It goes without saying that a solvent should have little or no toxicity. Experi-

TABLE II.

Property	Textile Spirits	Lactol Spirits	V. M. & P. Naphtha	Toluol	Xylol
Type	Aliphatic	Aliphatic	Aliphatic	Aromatic	Aromatic
Sp. Gr.	.73-.74	.74-.76	.76-.78	.866	.868
Re. Evap. Rate	68″	125″	300″	160″	360″
Boiling Range					
I.B.P.	170°F	201°F	244°F	224°F	264°F
5%	174°F	206°F	258°F	226°F	274°F
25%	189°F	211°F	268°F	228°F	277°F
50%	197°F	214°F	275°F	228°F	278°F
75%	209°F	218°F	280°F	229°F	280°F
95%	224°F	229°F	292°F	230°F	282°F
F.B.P.	230°F	237°F	298°F	231°F	284°F

ence has taught us which solvents are harmless and which are to be avoided. Today, only those solvents are used which have been found to have no ill effects on those who come in contact with ink or solvent vapors.

Usage

Thus far, we have examined the composition of inks, toners, varnishes, extenders, and solvents, but it is up to the printer to combine these products in such manner as to make a ready-to-run ink which will permit him to operate his press at a given speed and reproduce copy fairly exactly. It is at this point that there is some confusion, and justly so, for the printer knows very little about ink formulation, and the ink formulator knows very little about printing. In the following paragraphs, an effort will be made to correlate the knowledge of each type of artisan to make an acceptable ready-to-run ink.

Ready-to-Run Inks

First, let us examine those physical properties of a ready-to-run ink, which make for good speed performance on the press and factual copy reproduction. It is necessary not only to consider the problem at the production press level, but also at the proving press level. The factors involved are:

(a) Selection of thinner for proving press
(b) Selection of thinner for production press
(c) Two approaches to proving a new cylinder
(d) Relative strength of proving and production inks
(e) Ink viscosity—its relationship to speed of press and depth of etching
(f) Tack or surface tension of an ink

The base inks are usually ground in a ball mill. Light colors are made in porcelain lined mills, while the darker colors and the more difficult ones to disperse are ground in steel mills. Ball mills are well adapted for grinding gravure inks because they are vapor-tight. This type of grinder has its disadvantages because sometimes minute metallic particles from the ball and from the liners in the mill go into the ink, even though all possible precautions are taken to eliminate this. If minute steel particles go into the ink, then such particles can be very annoying and costly to the printer. If it gets in the right position under the doctor during the running of the press, it can very easily destroy a cylinder.

Coloring Pigments

The coloring pigments used in the manufacture of rotogravure ink are mostly organic pigments, although some metallic oxides are used. The binder base white and varnish must be selected that they will sufficiently adhere to the paper on which they are to be printed. Therefore, it can be seen that the binders are important members of the finished ink. They can be manufactured from either natural or synthetic materials, and must be of such composition as not to be excessively abrasive to the copper printing shell and must not react in any manner to copper, aluminum steel or cast iron.

The function of the solvent is either to dissolve the binders in suspension and thin the ink to a desired consistency so that the solution becomes a homogeneous mixture. Of course, the solvent must be so balanced to permit us to have the correct evaporation rate during the printing.

Even though the solvent doesn't enter into the final printed ink film on the paper, it must all be evaporated before it reaches the drying ink stage. All solvents used in rotogravure inks constitute a fire hazard, and great care should be exercised in handling them.

(To Be Continued)

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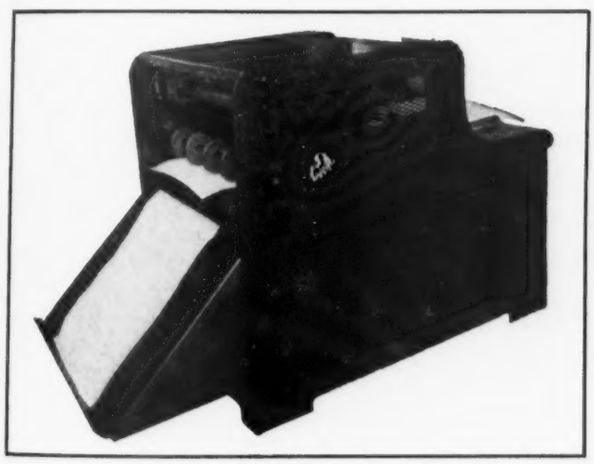

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Patents

For The GRAPHIC ARTS

Covering patents issued July 7, 14, 21 and 28.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Bindery:

2,644,965. NIPPING PRESS is provided for use in book binding for removing the swell at the backs of assemblies of sheets to form books. A platform serves as an abutment for the back edge of the work. An abutment bar perpendicular to the platform affords with the platform a right angle support for one side and the back of book. The work is located between a presser bar and the abutment bar. Pressure bar is parallel with and spaced from the platform. A marginal side part of the work is exposed to a depth sufficient to contain the swell to be removed. One bar moves toward other bar to grip the work. A pincher bar is driven against the exposed marginal part of work after work has been gripped. Invented by Lewis G. Kitcat, London, England. Unassigned. Application Jan. 23, 1951; in Great Britain May 5, 1949. 8 Claims.

2,645,327. JOG FEEDER FOR BOOKS. Jog feeder is provided for gathered pages, sheets or signatures, and operates to transport each assembly from an infeed station into a binding machine. Device comprises a conveyor having a succession of lateral pushers moving books serially onto and over a bed from a seizing station. Actuating mechanism imparts reciprocatory jog action to the bed in times relation codirectionally with, but at a different rate from, the conveying operation of the conveyor. Books are delivered in succession to the seizing station by a power driven mechanism. Invented by William B. Hildmann, Chicago. Assigned to Brock & Rankin, Chicago. Application Jan. 16, 1948. 23 Claims.

2,645,795. A METHOD OF BINDING BOOKS is provided which produces unusual flexibility between the covers and the binding and strength at the hinge. A cardboard core is prefabricated with facing plies forming a double strip extending along either side margin. Double strips of book contents are prefabricated. The contents are assembled between a pair of the double stripe of covers. The binding strips are fastened through the intervening contents. The assembled double cover strips and contents are moved forward while a channeled binding tape is applied to the outer side margins. Individual books are severed from the double strips. Invented by Lloyd E. Pitner, Milwaukee, Wis. Unassigned. Application Apr. 3, 1947. 13 Claims.

2,646,104. STRIP APPLYING MECHANISM IN OR FOR BOOKBINDING MACHINES. Strip applying mechanism is provided of the type employed in the manufacture of magazines and in connection with a book binding machine. Each book is continuously advanced along a travel path with its back exposed and adhesively coated for application of a back strip. A double crank parallel motion device moves a strip holder continuously in a curvilinear orbit. The holder is carried cyclically toward and away from the advancing book back and forth along the path. Air pressure means are operable when the strip holder reaches the limit of its cyclic movement toward the book back. This transfers the strip there on onto the book back. Invented by Thomas B. Hawkes, Champlain, N. Y. Assigned to The Sheridan Iron Works, New York, and to C. B. Sheridan Co., New York, N. Y. Application Sept. 29, 1950. 31 Claims.

2,646,279. MECHANICAL COLLATOR. The apparatus is for collating sheet material such as pamphlet pages and the like. A sheet-ejector device comprises a reciprocating element having an arm pivotally mounted thereon for rocking movement. A finger is pivotally mounted on the arm and includes a section extending rearwardly of the pivot, a return bend and a section extending forwardly therefrom. The latter section carries a flat traction element. Invented by Wilber E. Thomas, Cranford, N. J. Unassigned. Application Sept. 17, 1947. 1 Claim.

2,646,726. APPARATUS FOR TRIMMING AND NOTCHING SIGNATURES. Apparatus is provided for pattern roughing and transverse grooving of a book backbone which will operate at the higher speeds of bookbinding machinery designed for application of hot melt adhesives. A cutting mechanism consists of a horizontally disposed rotatable disc provided with a number of replaceable cutters mounted near the periphery of the disc and projecting vertically upward to form a series of cutting edges. A supported back-up plate is pressed against an exposed portion of the signatures below clamps as they pass over the mechanism. Teeth cut the paper to the desired shape on the punch and die principle. Invented by Robert E. Fogg, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application Jan. 12, 1950. 12 Claims.

Composing Room:

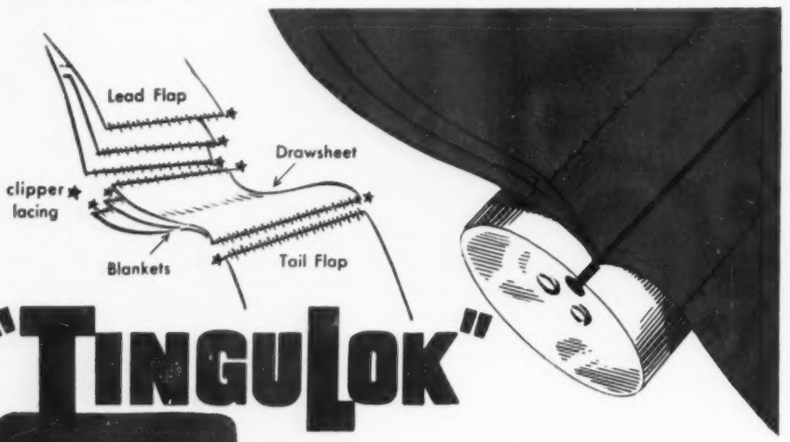
2,645,168. LINE JUSTIFYING APPARATUS is provided for use in connection with typographical line composing machines. The device comprises a line-follower movable from a line-starting position corresponding to a selected line-length of type matter to be produced to a fixed line-ending position. A pivoted justification control rail is movable into an angular position for cooperation with the line-follower during movement to effect line-justification action. The rail is mounted for endwise adjustment to positions at variance with line-starting position of the follower. This limits the justifying action of the rail thereon to that portion of the line produced as the follower moves from the adjusted position of the rail to fixed line-ending position. Invented by Herman R. Freund, Brooklyn, N. Y. Assigned to Intertype Corp., Brooklyn, N. Y. Application Aug. 2, 1950. 38 Claims.

2,646,155. CORRECTING DEVICE FOR PRINTING APPARATUS. Apparatus for use in photocomposing (phototypesetting) utilizes a normal recording strip and a correction strip. The device translates automatically all markings of the strip and composes the form without intervention of the operator. A limit signal precedes each line in normal strip. Correction strip comprises corrections to be applied to original text registered on normal strip. Invented by Maurice H. Cardon, Paris, France. Unassigned. Original application July 25, 1946; divided and this application Aug. 4, 1947, in France July 31, 1945. 2 Claims.

2,646,733. RECORD-ACTUATED PHOTOCOMPOSING (Phototypesetting) MACHINE. Apparatus is provided for photographically composing justified lines of text matter for use in making plates for offset presses, etc. Apparatus comprises an electronic mechanism for determining from the justified space length signal on a record tape the adjustment for the spacing mechanism in actuating the carrier for a sensitized sheet. The space control mechanism includes means for utilizing a light source for taking the space measurement from the record tape. A photographic mechanism including a character plate projects images of elements of typographical composition onto the light sensitive sheet upon a sheet carrier or table. Invented by Howard B. Ackerman, Rockville Center, N. Y. Unassigned. Application Dec. 20, 1947. 11 Claims.

Feeding, Folding, Delivery:

2,644,685. FEED DELIVERY DEVICE feeds newspaper sections into a newspaper inserting machine preparatory to the final step of assembling the complete newspaper by inserting comic or rotogravure sections into the folded regular news sections. The device is designed to be used with patent No. 2,569,692, entitled Newspaper Inserting Machine. The feed delivery device comprises a housing, the forward end of which constitutes a delivery trough. A mov-



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Patents

able carriage with a main feed roll is on the housing. A co-operating feed roll is movably mounted on the carriage. A third feed roll below the other rolls is movably mounted on a support. Guides direct newspaper sections between the main feed and cooperating rolls and down in front of the third roll into the delivery trough. Forward pressure exerted by the carriage moving on the housing is regulated. Invented by Chauncey L. Rockwell, Portland, Ore. Assigned, by mesne assignments, one-half to Robert P. Gantenbein, Georgianna G. Aston and Rhoda Adams. Application Sept. 23, 1950. 8 Claims.

2,644,686. METHOD OF AND APPARATUS FOR INSERTING SINGLE SHEETS INTO FOLDED SHEETS. A method and apparatus are provided for inserting a single sheet into a folded sheet in the process of preparing printed material. A single sheet is picked up by suction feet, moved upwardly by the upward movement of suction feet and carried over feed rollers. At the same time, suction feet pick up one side of the folded sheet and move it upwardly so that the single sheet can be inserted. The side of the folded sheet raised is then permitted to drop and the folded sheet, which now has the single sheet inserted into it, is picked up by suction feet and carried to a receptacle. Invented by Herman Dann, Brooklyn, N. Y. Unassigned. Application Mar. 17, 1952. 6 Claims.

2,645,479. MULTIPLE SHEET FEEDER. The improved features of this feeder can be used as an attachment on existing paper sheet feeders. It can be regulated so that it will feed single sheets at spaced apart intervals, a predetermined number of sheets in spaced apart stacks or continuously feed the sheets in superimposed relation to a predetermined depth. Invented by William E. Mitchell, Peoria, Ill. Unassigned. Application Aug. 25, 1950. 3 Claims.

2,645,480. SHEET DELIVERY SYSTEM FOR PRESSES. A much higher delivery speed for stacking paper sheets from a web press is accomplished by rapidly applying a progressive air pressure wave which travels across the top of the sheet to produce a squeegee action and simultaneously evacuating the air under the sheet in the same progressive manner. A series of air pressure distributors is arranged for distributing air pulses across each injected sheet in rapid succession in the direction of delivery and a similar series of air suction devices is arranged to withdraw the air from the underneath side of each sheet. Invented by Henry R. Long, Linden, N. J. Unassigned. Application May 22, 1952. 10 Claims.

2,645,995. SHEET EDGE TRIMMER FOR PRINTING PRESSES. A cylinder is provided for cylinder printing presses for printing sheets of paper, paperboard, and boxboard. The cylinder has a longitudinal recess in its surface. A gripper shaft is mounted on the cylinder in the recess. Fingers on the shaft engage and clamp a sheet of paperboard onto the cylinder surface. A cutting knife is mounted on the cylinder at the recess. The knife is within reach of fingers for cutting an abutment edge in sheets passing over the cylinder. The knife is U-shaped, the bight of the U is flat and parallel to the gripper shaft and the legs of the U extend towards the recess. The spacing of the legs is less than the space between the fingers between which the knife is mounted. Invented by John J. Isella, North Haven, Conn. Assigned to National Folding Box Co., Inc., New Haven, Conn. Application Aug. 4, 1949. 4 Claims.

Miscellaneous:

2,645,871. MACHINE FOR DECORATING SHEET EDGES. This machine is for edge-gilding or decorating sheet edges of books, cards or the like. Two clamping jaws rotating about a single axis hold a plurality of sheets in side-by-side relation to form a plurality of surfaces made up of sheet edges. A carrier-backed decorative strip in which a heat activated adhesive is incorporated is positioned between the surfaces and a heating roller. The strip is in continuous contact with the heating roller and the surfaces successively as the clamping jaws rotate on their axis. The heating roller contacts the decorative strip at the place of its contact with the surfaces as the jaws rotate. Invented by Wallace L. Bostwick, Columbus, O. Assigned, by mesne assignments, to The United States Playing Card Co., Cincinnati, O. Application Apr. 6, 1950. 7 Claims.

Platemaking:

2,644,371. ROUTER WITH ADJUSTABLY MOUNTED DRILL is especially used for semi-cylindrical stereotype plates. It comprises a rotatable work support mounted on a horizontal axis. A router head is supported by a pair of stationary horizontal bars extending parallel to the axis of the work support. The router head is movable along the horizontal bars. A spindle assembly is mounted on the router head, and rotates on a vertical axis. The mounting and spindle assembly moves up and down in a vertical direction in the router head. Invented by Craig C. Baker, Los Angeles, Calif. Unassigned. Application Mar. 14, 1949. 3 Claims.

2,644,778. METAL FOIL MATRIX. A foil mat is provided for use as a matrix in forming stereotype plates. The mat is adapted to be inserted in a typewriter to have type impressions formed therein. It comprises a plurality of superposed layers of thin, deformable metallic foil. Each layer has a plurality of closely spaced, minute depressions. Depressions are of a depth and are spaced from each other a distance comparable to the thickness of the layer. Invented

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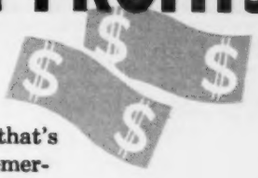

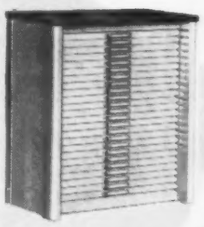

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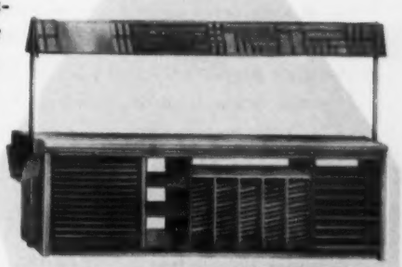

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equipment

Hamilton

Manufacturing Company

Two Rivers, Wisconsin

Newl Ad Assembly Cabinets

by Frank J. Russell, jr., Marquette, Mich. Unassigned. Application Jan. 7, 1950. 10 Claims.

2,645,178. PLASTIC PRINTING PLATE is provided which is formed from cellulose acetate material. A thin body is afforded having a flat rear face with reinforcing edge portions projecting rearwardly from the rear face. A plurality of parallel spaced ribs are on the other face opposite the flat rear face. Ribs are spaced laterally apart in a distance equal to the line spacing desired in lines of embossed type. Ribs are of a width equal in height of the embossed characters to be formed thereon. Invented by George C. Brainard, Cleveland, and John H. Gruver, Cleveland Heights, O. Assigned to Addressograph-Multigraph Corp., Cleveland, O. Original application Sept. 13, 1949. Divided and this application Aug. 23, 1950. 5 Claims.

2,645,998. PRINTING PLATE SOLIDIFYING AND DIMENSIONING METHOD. Method is provided for acting upon a printing plate formed of a metal alloy containing predominantly lead for establishing a predetermined dimensional relationship between the printing face and the back of the plate. The metal alloy composing the plate is subjected to pressure induced deformation sufficient to produce correction or modification of the plate. At the same time a transitory condition of increased machinability is still prevailing in the plate. Shaving or machining of the plate takes place while this transitory condition prevails. Invented by Donald C. Cottrell, Fox Point, and Carl C. Sweet, Whitefish Bay, Wis. Assigned to C. B. Cottrell & Sons Co., Pawcatuck, Conn. Application Jan. 3, 1949. 3 Claims.

2,646,601. HEATING AND COOLING BACKING PAN. Apparatus is used for backing up electrolytically produced printing faces used for printing type matter, illustrations, and the like, in the usual manner, but with special provision for keeping shrinkage of the molten metal to a uniform minimum. The formed electrotype shells are uniformly heated and cooled, with instant change-over from heating to cooling. This application of heat is accomplished by burning gas in uniformly spaced burner tips. As soon as the molten backing metal is cast, valves are opened and compressed air is forced through the same burner ports. Invented by Albert H. Jung, Flushing, N. Y. Assigned to United American Metals Corp., Brooklyn, N. Y. Application Sept. 14, 1949. 1 Claim.

Printing Inks:

2,644,759. PRINTING INK is composed of a pigment and a vehicle comprising a bodied vegetable drying oil and a small amount of a wetting agent obtained by heating 1 to 4 moles of tetraethylenepentamine with 1 mole of urea. Pigment pastes and printing inks prepared in accordance with the invention exhibit better flow, a decrease in thixotropic properties, and reduction in bleeding of pigment and vehicle, and are particularly for use as lithographic inks. Invented by Arthur J. Schroeder, Cincinnati, O. Assigned to Sterling Drug Inc., New York, N. Y. Application July 9, 1951. 16 Claims.

2,644,760. PRINTING INK of this invention is similar to those discussed in patent No. 2,644,759 in this report. A pigment is dispersed in a vehicle comprising a bodied vegetable oil and a small amount of a wetting agent obtained by heating 0.2-1.0 mole of tetraethylenepentamine with one mole of propylene oxide. Invented by Arthur J. Schroeder, Cincinnati, O. Assigned to Sterling Drug Inc., New York, N. Y. Application July 9, 1951. 16 Claims.

2,645,622. PRINTING INKS. The ink comprises coloring material dispersed in a vehicle comprising a glycol-soluble, water-insoluble resinous binder dissolved in a liquid polyglycol solvent and including 0.3 to 4.75 percent, based on weight of the ink, of alcohol-soluble N-alkoxymethyl polyhexamethylene adipamide. Inks of the invention display improved binding and rub-resistance over other inks of the steam setting type and have very little tendency to fly or mist when employed in high speed rotary printing operations. Invented by Delbert H. Praeg, Plainfield, N. J. Assigned to Sun Chemical Corp., Long Island City, N. Y. Application July 1, 1950. 14 Claims.

2,647,060. NONSMUDGING DUPLICATING INK. A transfer or duplicating ink is applicable for use on standard types of printing presses to provide a resultant film which is non-smudging. Ink comprises the following ingredients in parts by weight; 126 parts wax-oil-color blend, 30 parts bentonite filler, 26 parts glycerol ester of hydrogenated rosin, 26 parts of a blend of primary amides of long chain fatty acids, 2.6 parts of ethyl cellulose N-200. The ingredients are dissolved in 172 parts aromatic petroleum solvent having a distillation range of 345-412° F. Invented by William N B. Armstrong and Hyman S. Kredentser, Toronto, Ontario, Canada. Assigned to Ontario Research Foundation, Toronto, Ont., Can. Application Feb. 13, 1950. 3 Claims.

Printing Presses:

2,644,395. RECIPROCATING DOCTOR BLADE MECHANISM provides for more control of a blade in order to accomplish perfect wiping of a printing plate, and to permit use of printing inks of different consistencies in intaglio printing. The reciprocating doctor blade involves a series of brackets slidably mounted on a supporting shaft to support the blade. A key is fixed in the shaft. Elements in the brackets associated with the key adjust each bracket circumferentially on the shaft to bring them into alignment. Play in the mechanism is eliminated while permitting free axial sliding movement of the brackets. Invented by Henri E. Peyrebrune, River Forest, Bruno B. Pasquinelli, Chicago, and Benjamin L. Sites, Elmhurst, Ill. Assigned to Miehle Printing Press and Mfg. Co., Chicago, Ill. Application Mar. 22, 1949. 5 Claims.

2,645,175. ONE REVOLUTION HIGH-SPEED CYLINDER PRINTING PRESS is adapted for two color printing in one operation. It includes an annular printing cylinder, a flat form printing mechanism, and a round form printing mechanism. A separate printing surface is on the printing cylinder for each of the printing mechanisms. A transfer cylinder transfers the sheet to be printed upon during one revolution of the printing cylinder from one of its printing surfaces to the other printing surface. The round form printing mechanism is situated between a sheet feeding device and a sheet removing device. The round form printing mechanism is adjustable for printing on the printing surface of the flat form printing mechanism. Invented by Artur Buttner, Heidelberg, Germany. Assigned to Schnellpressenfabrik A.-G., Heidelberg, Germany. Application Mar. 22, 1950, in Great Britain Jan. 9, 1950. 6 Claims.

2,645,176. INK FOUNTAIN of the undershot type comprises a unitary reservoir formed of a sub base removably secured to the printing press base. A driven feed roll and a blade is included. The blade is normally out of pressure contact with the roll but is adapted for a flat upper surface contact with the lower peripheral portion of the roll at a point inwardly from the free edge of the blade. To adjust the flat blade contact away from the roll, a series of bolts are provided along the front edge of the blade in front of the contact point. Invented by Bennett B. Perry, Quincy, Ill. Unassigned. Application Mar. 14, 1950. 3 Claims.

2,645,177. STEREOTYPE PLATE CLAMP. Plate clamps are provided for holding stereotype plates upon the cylinders of printing presses. The plate is held down upon the cylinder by curved edge clamps. Intermediate clamps are spaced apart longitudinally of the cylinder. These engage in recesses formed in the plates. Invented by Arthur Dressel, Great Neck, N. Y., and Alexander J. Albrecht, West New York, N. J. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Sept. 18, 1946. 3 Claims.

2,645,179. ANTI-SMUT DEVICE is provided for use in a printing machine wherein paper after printing is so transferred that it can be subjected to only a slight tension or drag. Device comprises a fixed plate having a face in juxtaposition to the path of travel of the surface. Means are provided to cool the plate. Pneumatic suction means urge sheets traversing the plate into contact with the face. Invented by Murray Spiro, Brooklyn, N. Y. Unassigned. Application Feb. 18, 1950. 8 Claims.

2,645,202. DEVICE FOR SUPPLYING INK TO RIBBONS. Device is provided for supplying ink to an ink carrying ribbon of an apparatus wherein the ribbon supplies ink for the printing of indicia on paper such as in a machine for printing addresses. A transfer roller is journaled on a frame for engaging a ribbon. An ink supply cartridge having a wick extends therefrom for engagement with the surface of the transfer roller. The frame is movably mounted. Means acting upon the frame maintain the transfer roller in engagement with the ribbon. The ink cartridge is adjustably mounted on the frame to vary the contact of the wick with the transfer roller. Invented by John P. Knight,

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Birmingham, Mich. Unassigned. Application Nov. 18, 1950. 8 Claims.

2,645,529. MEASURING DEVICE FOR SPRAY APPLICATORS IN PREVENTION OF OFFSET AND THE LIKE. In high speed printing operations, this device controls the amount of dry powder, such as rice flour, which is sprayed onto the freshly printed sheets to prevent offset regardless of the humidity of the atmosphere. A scraper keeps a constant quantity of dust in a supply source and a scoop transfers the dust into a path along which compressed air is directed for carrying the powder to and spreading it between successive printed sheets as they come off the press. Invented by Arthur J. Jenner, Arlington Heights, Ill. Assigned 50 percent to Alexander F. Szymboraki, Chicago. Application Jan. 2, 1951. 25 Claims.

2,645,997. AN INK-DISTRIBUTING VIBRATOR UNIT is provided for use in a printing press designed to print several colors with one impression of the press. It comprises a vibrator bar with a key member having slots formed in it. Ink-distributing cylinders are each equipped with a spring for engaging a slot in the member. This engagement of the spring with the slotted key member serves to hold the ink-distributing cylinders in their proper positions on the vibrator bar. Spring may be released from the key to facilitate adjustment of any cylinder on the bar. Invented by Charles C. Grede, Denville, N. J. Unassigned. Application Jan. 4, 1951. 1 Claim.

2,646,749. STENCIL PRINTING APPARATUS. A silk screen printing machine comprises a flexible elongated blanket adapted to support a paper web. The blanket has downwardly projecting elements adjacent its lateral edges. The blanket moves across a printing table and rests upon it during printing. The table includes a flexible metal plate which extends between the elements and is covered with a resilient material. The level of the different portions of the plate adjacent and intermediate the edges thereof may be varied. Members at the back and front of the plate support the elements. The level of these members may be independently varied. Invented by John B. Thomas, Watertown, Conn. and Courtney E. Moorhouse, West Englewood, N. J. Assigned to Roto-Matic Screen Printer Ltd. Original application Feb. 5, 1947; divided and this application Mar. 3, 1949. 1 Claim.

2,646,938. WEB ROLL RENEWING. Method is provided of preparing a replacement web roll for a roll change in a printing press. The web end of a replacement roll is formed in the shape of a truncated V. The web end is secured to the next lower course of the web roll by circumferentially extending adhesive tapes disposed at the angles between the straight leading edge and the receding angular edges. Reinforcing strips are affixed to the surface of the web extending from behind the securing tabs to points on the angular edges. The surface of the web end between the securing tabs and the surfaces of the reinforcing strips is coated with an adhesive. Invented by William C. Wieking, Woodhaven, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Original application Aug. 19, 1946; divided and this application Aug. 13, 1948. 3 Claims.

Intertype Century Schoolbook

INTERTYPE Corporation has issued a 24 page booklet containing specimen lines of its Century Schoolbook with italic and small caps. Eight sizes, from 6 pt. to 14 pt., are shown. The two-color booklet measures 6¼ in. by 9⅛ in. Copies may be obtained by asking for PEE No. 786 in your request.

Craftsmen on Ball

(Continued from Page 52)

Means for Improvement Exist in Your Plant

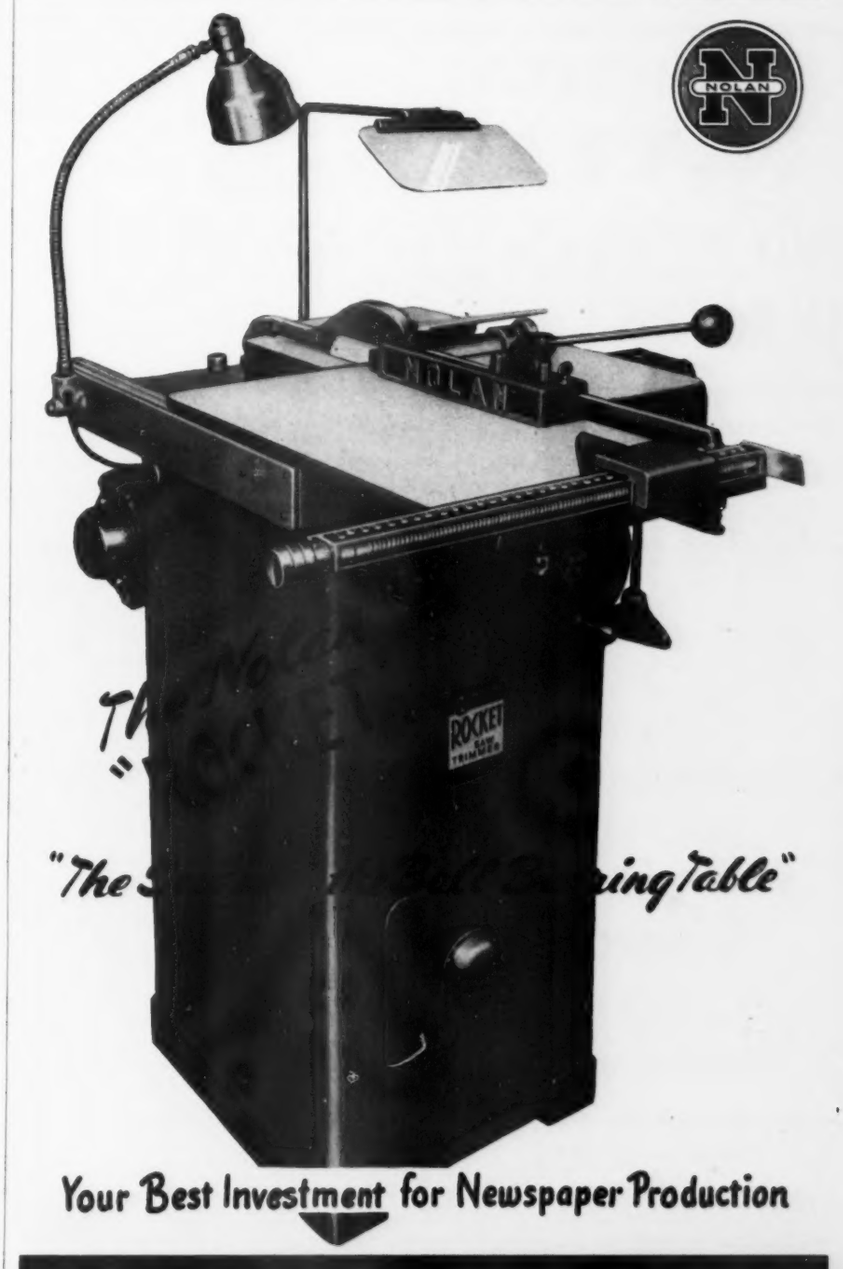
Gradie Oakes, Process Color Plate Co., Chicago, did not talk at great length because his allotted time was shortened through unforeseen circumstances, but he did say a lot in those 7 min. Oakes related that he knows letterpress printers get discouraged when they see jobs going to offset or gravure, or in some cases when a job goes from letterpress to offset or other process and back again to the letterpress process.

The speaker asserted there is only one way for letterpress printers to combat this condition. "The means for competing with letterpress printing against other processes exist right in your own plant," he said. "Processes already available which are a part of letterpress are not used by printers to reduce costs. These processes enable the letterpress printer to cut costs. To explain, he mentioned the fluorescent process used in photoengraving. The liquid is applied to the copy by the one who does art work for outlining halftones; and unwanted edges in the copy are dropped out automatically by the camera. The process is also used in the dropout halftones method whereby black light automatically drops out the portions not wanted.

He also mentioned recent development of a light weight metal mounting base which is cast in a flat stereotype casting box. Engravings are fastened to the planed base with thermoplastic cement under heat. He said he saw a job running on a cylinder press in a Chicago plant recently in which there were 15 or 20 cuts all mounted on the lightweight base without any press makeready. When properly combined in forms with type matter, valuable makeready time savings are realized.

With respect to pressroom makeready, Oakes asserted he has seen some of the makeready sheets which would be better off on the floor under the press fountain. The reason is that there is so much error in judgment as to where the cutouts should be applied. Consequently, the press stands idle at a costly hour rate. The greatest loss in some shops is press downtime on makeready.

He also advocated the cutting of halftones to pica measurements. He men-



tioned a method used in his own plant where the trimming devices are adjusted to cut in 2 pt. measurements only. Then when the forms were justified, all that was needed was a supply of 2 pt. leads. In one plant, 17 or 18 publications were published. All cuts were plastic cemented and cut to pica measurements with the 2 pt. limitation on measurements. After a time study was made it was found that 30% makeready time was saved because the presses were ready to print quicker and the job was printed better.

With respect to etching depths in halftones, Oakes said any photoengraver can make the depth gauge needle read to almost any measurement he wants. In other words, such gauges cannot be made to perform accurately. The best way to check halftone etching depths is to use a miscroscope which instrument he said is not costly. By using such an instrument the liability of human error is eliminated. Oakes said: "You set the instrument for height of dot and measure the well along the side of it and you can't be wrong regarding the etching depth."

Another point which Oakes drove home was the economical use of Cellophane proofs for step-and-repeat work in four color process jobs. He said that just before he left Chicago for Dallas to attend the convention, a job came into the plant consisting of 24 sets of four color process images up. One set of color engravings was made. After getting OK from the customer Cellophane proofs were pulled from the originals in step-and-repeat fashion. The job was etched as a deepetch job and practically no finishing was done on the plates. Oakes remarked: "I believe this is another move you can make to go after the offset business."

Oakes is rather skeptical regarding the wide utility of the engraved magnesium printing plate. He said: "It fits on certain jobs. The material costs more, it is harder to etch and harder to patch and there is a different technique in etching . . . I don't believe you can do a color job on it." As contrasted with that method, in the case of short runs, an 11 pt. plate is fabricated. His firm takes a set of original plates, a sheet of thermoplastic material, and a sheet of metal to make a sandwich. The assembly is put in a hydraulic press for a couple of minutes to soften the plastic sheet. The assembly is then put in a cold press to bond the three elements together. After the bonding operation, the 11 pt. plate is beveled. It is then mounted on patent base in the press and printed from in the regular way.

Oakes closed his punchy address on an ominous note. He said: What you need to compete with offset is a set of duplicate four color process plates (to use an illustration of what he meant) 8½ in. by 11 in. up in register for $10 a set or less. And not only that, the offset press runs at least a third faster than your letterpress." He referred to some of the cost-cutting operations mentioned in his address and said: "You think these little things don't amount to anything, but you've got to pick up a lot of things to compete with a process having a plate cost like that."

Rubber and Plastic Printing Plate Advancement

The subject of Rubber and Plastic Printing Plates was discussed at the Letterpress Clinic. Siegfried Higgins, Research Director, Bakelite Div., Union Carbide and Carbon Co., New York, briefly reviewed development of rubber printing plates. In discussing rubber and plastic printing plates, the speaker largely used the generic term "rubber" to apply to both rubber and plastic plates. He enumerated the many uses of rubber in the industry. The main part of this section of his address was concerned with the Flexographic Printing Process. Engraved or molded rubber plates are used on curved rotary press plate cylinders. The ink consists of an alcohol or water solution of aniline dyes. These are characterized by high fluidity and rapid drying. Inks now used can be pigmented 100 per cent. In the Flexographic process metal plates are unsuited because of poor affinity for the thin water-like inks.

Higgins explained that "rubber" plates may be mounted on wood or metal for flatbed printing. For rotary printing they may be mounted directly on plate cylinders or prepositioned on thin metal or paper sheets. They may also be mounted on metal saddles fitting the plate cylinder curvature, or they may be molded directly to a sheet metal backing. The latter method, he explained, has merit in the control of shrinkage and in rapid plating up of the press. Various methods are used to attach plates to cylinders, some of them being liquid cements, Stickyback and/or double faced tape adhesives.

Higgins warned that care should be exercised that the correct plate wash be used. Some solvents, such as benzene, toluene and kerosene attack the plates. Alcohol, naphtha and high test clear gasoline (without tetraethyl lead) are preferred.

Ten years ago while operating a two track miller in Winona, I met Mr. Felton Colwell of the Colwell Press, who had a miller Major and was also miller minded. At that time I decided to join Colwell Press and we planned for our letterpress room a battery of two 2-color Majors, two single-color Majors, and two Simplexes, feeling that that would be a great press room.

We now have just such a battery of miller presses. The quality of the work done in our letterpress department is acknowledged to be the finest in our area and our prices and service meet the unusual demands we place upon them.

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Layout and Copy by
Mr. Al Radatz, Vice-president
The Colwell Press, Inc.
Minneapolis, Minn.

Rubber plates still are used on rotary presses designed for printing with stereotypes and electrotypes. Book publishers have built webfed rotary presses to their own specifications. Printing speeds up to 15,000 i.p.h. are obtained. A high speed small web press for printing business forms is a recent development.

The speaker discussed limitations of rubber printing plates. He said it is not practical to print fine screen halftones satisfactorily although it is possible to obtain all of the detail of the engraving in molding the rubber plate. In the printing operation, the dots tend to mushroom and a loss in tone graduation takes place in the print. Halftone screens up to 85 lines are commercially practical. Rubber plates cannot be routed. However, nonprinting areas can be relieved by stripping the rubber away from the metal and fabric backed plates.

Care must be used in the selection of inks and driers which attack the plate's surface and reduce its life. Manganese and cobalt driers should be avoided. Lead driers are recommended. Washup solvents which disintegrate rubber are to be avoided. Excessive or uneven printing pressures will wear rubber plates prematurely.

Continuing, Mr. Higgins said that rubber plates require minimum makeready which reduces press downtime and increases production. The kiss impression enables printing presses to be operated at up to 600-800 f.p.m. Printing runs up to 25 million impressions are not uncommon with flexographic inks. With oil inks runs of 500 thousand impressions or more can be obtained.

Printing quality with rubber plates in many applications is excellent, particularly on manifold forms with small type on non-absorbent film stocks such as Vinylite, Cellophane and various other plastic materials.

Making Plastic Plates

Mr. Higgins explained that in the case of plastic printing plates, the compounds are classified in two major categories — thermoplastic and thermosetting. Thermoplastic materials from which the plates are molded become plastic with heat and pressure and rigid upon cooling. They can be resoftened by heating and cooled and undergo little if any chemical change. They are also flexible in form.

Thermosetting plastic materials from which the thermoplastic plates are molded are initially softened by heat and pressure but harden with continued heating. It is not possible to resoften thermosetting materials once they are completely cured or set.

The making of thermoplastic molds from Vinylite has enabled electrotypers to increase production, plant operating conditions, and improve the quality of the electrotype. It ranks as a major improvement in the electrotyping industry.

The applications for printing plates molded from plastic are voluminous. Extensive use is found in the making of newspaper advertising plates, book plates and for general printing. Plastic plates are used for printing cartons, tickets, ruled forms, labels, letterheads and covers in black and black and color.

In discussing the limitations of plastic plates, the speaker said Vinylite plastic plates are not suitable when exposed to temperatures in excess of 140 deg. F. They will soften slightly and wear rapidly. The plates are attacked by some solvents in plate washup compounds.

Bakelite thermosetting molding materials are used in making printing plates. Finishing operations are similar to those used in Vinylite plastic platemaking. However, since the plate is hardened by thermosetting it does not yield to the straightening operation readily.

The handling of Bakelite and Vinylite plastic plates on the press is similar to the handling of metal plates in required printing pressure. The printing surface of plastic plates have a good affinity for printing ink and some claims of saving in ink consumption have been made.

Among the qualities claimed by the speaker for Vinylite thermoplastic plates are: (1) Substantial printing life; (2) Chemical resistance to average printing inks and moisture; (3) Compression resistance to printing pressures and limited stereotype matting; (4) Plastic memory makes possible rapid repair of plate batters and localized heating of affected area allows the printing surface to resume its originial molded shape; (5) Plates and scrap material can be reground and blended with new material similarly to metal; (6) Shrinkage can be controlled uniformly for close register; (7) Plates can be made accurate in thickness to 0.001 in.; (8) The solid and uniform plate construction is extremely durable in printing ruled forms.

In summarizing the qualities of Bakelite thermosetting plates, Higgins said: (1) Plates have greater durability as a stereotype mat pattern. Twenty thousand stereotype mats have been made from a single plate; (2) Unaffected by temperatures up to 200 deg. F.; (3) Unaffected by most plate washup compounds.

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Silk Screen Uses, Its Limitations —Disadvantages

THERE is no limitation to the variety of printing that can be done by the screen process method, declared John Key, President of Admiral Screenprint Corp., Chicago. Speaking at the Silk Screen Clinic during the Intl. Craftsmen's Convention in Dallas, Tex., Key exhibited to his audience a wide range of printed specimens produced by screen process printing. He said the field for this type of printing extends from engraving tombstones through the printing of postage stamps, tickets, labels, cards, posters, newspapers, magazines, catalogs, books, packages, wallpaper and billboards up into sky writing.

Screen Process Printing's Position in the Graphic Arts was the title of Mr. Key's address in which he emphasized that ". . . silk screen is a highly specialized printing application, requiring specialized skills, know-how, equipment and plants. It is not compatible under the same roof or in the same physical or economic area with other printing methods. This is due largely to the comparative slow output and the considerable space factor involved. To adapt modern printing craftsmen to silk screen production is like attempting to adapt jet pilots to truck driving."

Key was one of two principal speakers who provided an interesting presentation of screen process printing for production. The session was presided over by Albert L. Kolb, Intl. Treasurer and also Manager of the Printing Dept., Marine Trust Co., Buffalo, N. Y.

Short Runs Form Big Volume

Mr. Key stated that the biggest volume of silk screen printing done today is short run work. Some of the greatest quantity items handled by this method include greeting cards, bottles, decals, etc. It is adaptable also for handling oversize sheets. The largest sheet ever printed by screen process measured 9 ft. by 36 ft.

Limitations to Screen Process

The speaker admitted that the process has many limitations. He added that silk screen printers ". . . probably won't get around to printing magazines, books, catalogs or newspapers any sooner than you fellows will be running the side of a box car through an offset press."

Continuing on the advantages and shortcomings of this process, Mr. Key said: "Due to the fact that silk screen can lay down almost any required ink film, it can print pure white on jet black, metallic colors, fluorescent and phosphorescent colors, heavy sizings and adhesives and heavy ink films, where intensity, opacity and durability are required. Metal signs, wallpapers, glass, plastics, wood parts, and decalcomanias are fields in which silk screen excels.

"Such heavy ink films take time to print and lots of time to dry. This is silk screen's great limitation. It is necessarily a comparatively slow process. Of course, thin inks, press and conveyors today can deliver about 2500 i.p.h., but the cost of such press time is currently six times what letterpress or offset presses incur.

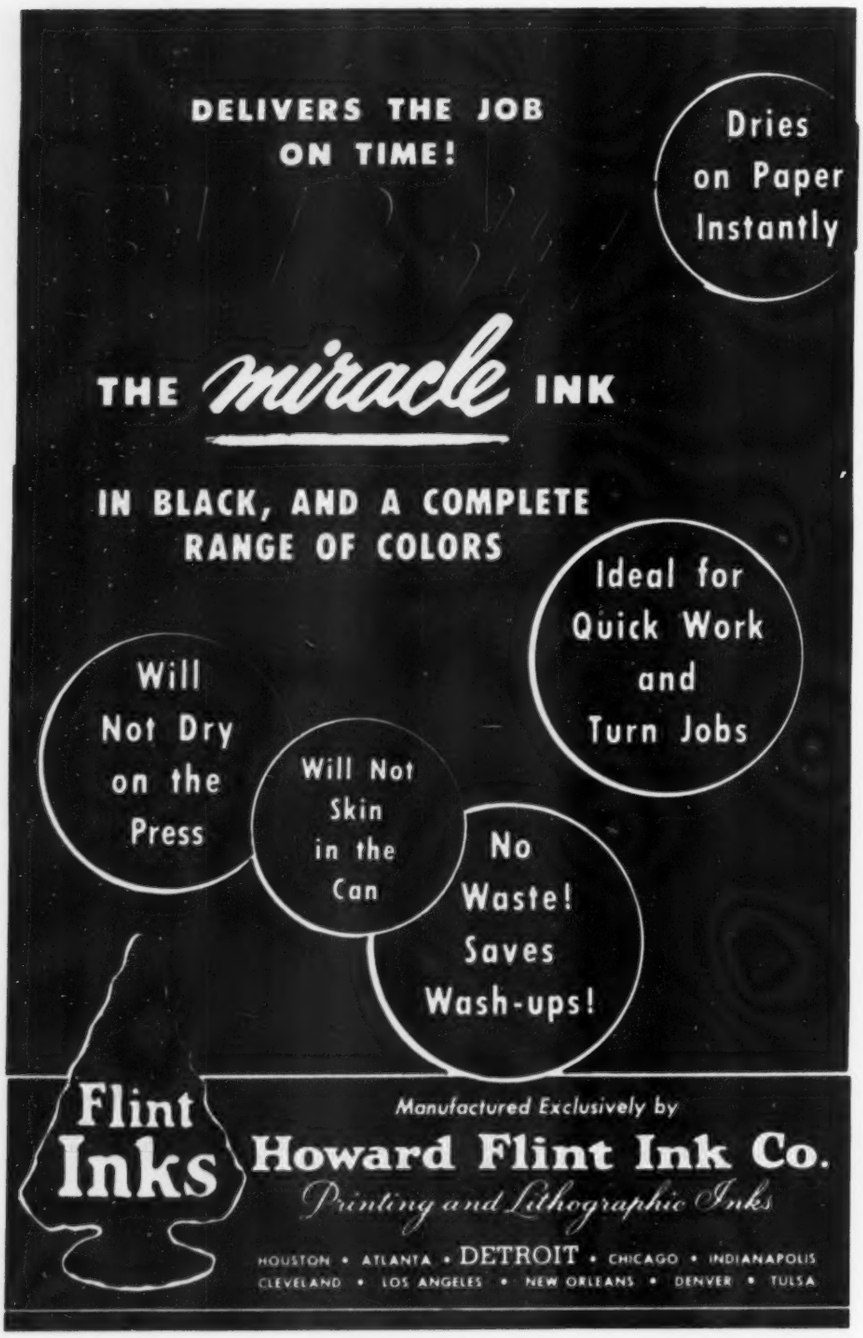
Easiest Printing Plate Made

"It is easier, quicker and cheaper to make a screen than any other kind of printing plate, especially as sizes go beyond 20 in. by 24 in. Today top level screen craftsmen can reproduce type or fine line work photomechanically as well as other methods. In some cases, even finer detail can be obtained by silk screen.

While a few top screen technicians have succeeded in reproducing 133 line four-color process work, it has been an outstanding exception, and at its best cannot be favorably compared with routine letterpress or offset process work. I'm sure that those of you who have been tinkering around with dot structures on metal plates can appreciate that it must be quite a stunt to hang those same ornery dots on a piece of open mesh fabric!"

In Combination With Other Processes

Some of the applications of screen process constitute a variety of things some of which are used in combination with letterpress and offset printing. Concerning this, Key said. "The advent of the high intensity fluorescent color inks are best applied by silk screen, and many printers and lithographers are having it screened on their finished work to meet the demand. Another field is the printing of metallic — gold, silver, copper, etc. Opaqueing, spot varnishing, tinseling and flocking are still other helpful silk screen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applications. And many finished jobs, condemned because of error or too-late customer changes have been salvaged for the printer by the screener, even after they were mounted and die-cut."

An interesting part of the Silk Screen Clinic was an actual demonstration of this process by screen process printers from the Evans Printing and Poster Co., Dallas, Tex. A running commentary explaining the different steps as they took place was given by Paul M. Evans of the Evans firm and also Vice Pres., Southern Region, Screen Process Printing Assoc., Intl. The piece reproduced during the demonstration was a certificate of citizenship in the Great State of Texas.

Electronic Control Bulletin

A BULLETIN in which is described the company's new line of Free-Vane Electronic Controllers has been published by The Bristol Co. The 16 page Bulletin, No. B226, is devoted to descriptions of additions to the Series 500 line of instruments, available as indicating or recording controllers for temperature, pressure, flow, liquid level, humidity, and time program. Complete information on the unique frequency modulation principle of the control unit, plus data on the combinations of indicators or recording pens and control units available, examples of applications, and engineering specifications are contained in the illustrated booklet.

Bulletin B226 is available by mentioning PEE No. 754 in your request.

Four-Color Process Inks

FOUR-COLOR process inks developed by J. M. Huber Corp. were used in the printing by letterpress of several illustrations appearing in the August 1953 issue of *Huber News*, published by that company. The four-color halftones are part of an article on the Champion Paper and Fibre Co. whose research and plant operations are shown in detail. Copies of this issue are available by referring to PEE No. 785 in your request.

Type Technology

(Continued from Page 42)

a tray to be put back into the magazines at a later date. But this doesn't keep channels full—and somehow that job never gets done. *So do it now.*"

Matrices get damaged in (1) Assembler, (2) Intermediate channel, (3) Second elevator transfer, (4) Distributor box and distributor, and (5) Auxiliary distributor boxes.

To hold matrix hairline troubles to the minimum; (1) Clean spacebands thoroughly each shift, (2) Avoid loose lines, (3) Keep assemblers and belts, distributor boxes and screws and distributor channel entrance free from excess oil, (4) Never use liquid washes of any kind on matrices.

Cantor explained uses of devices developed by him for restoring matrices to good condition. The first of these is the Align-A-Mat which will restore worn lugs to factory standards. The other device is called Clean-A-Mat. It is simple in construction. The laminated nonwarp board is covered on two sides with Durite fastened to the board with clamps. Rubbing each matrix lightly over the Durite surface cleans and polishes the sides.

As chairman of the Composition Committee working through the Research and Engineering Council, Sol Cantor expressed disappointment with the slowness of progress which has been made with respect to mechanical improvements suggested by the committee to both Intertype Corporation and Mergenthaler Linotype Co. Cantor read letters received from both companies following joint meetings some time ago at the factories in Brooklyn. The letters indicated that both companies are cooperating but progress is slow.

Peened Surface Creates Interest at ITCA Meeting

PARTLY because it is one of the newest processes as applied to typographic composition and because it may have extensive use in the typesetting and platemaking fields, the surface treatment process announced by Impruv-a-Mat Corporation created unusual interest among those attending the Washington (D.C.) ITCA convention at Mayflower Hotel, Sept. 3 to 5 inclusive. The process is accredited to Fred Jernt who is well known in the Graphic Arts espe-

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cially in the Chicago area. The process may be used in treating the casting surfaces of linecomposing machine molds, matrices for all hot-metal line and type composing machines and the image bearing surface of photoengraving plate stock before etching.

In brief, the Peened Surface process consists of exposure of the surface to be treated to the impact of tiny glass beads projected against the mold, matrix or plate stock materials under air pressure by means of a ⅜ in. diameter nozzle. In one variety of the surface treating method 1250-mesh-to-the-in. glass beads are projected against the casting cell of the matrix under 90 lbs. air pressure. According to Mr. Jernt, the method of application varies with the intended use of the treated surface. In one operation, for instance, the glass beads would be of the 100 mesh-to-the-in. kind.

Charles Broad, who is associated with Jernt in the new company, explained that microscopic indentations are formed in the treated surface. The indentations seal the pores in the metal and make the surface hard and wear resistant. The resultant treatment as in the case of the letter character cell in the matrix, it is asserted, provides a surface on the type face which accepts and imparts ink under press impression in excellent manner; the treatment improves the surface of the type character without altering the design of the type face itself. Announcement has been made that the process is applicable to Intertype, Linotype, Ludlow and Monotype composition, display, Giant, rule and border matrices.

According to the sponsor, the process prevents burning and pitting of Monotype matrices and restores worn or damaged matrices to a like-new condition. The Jernt process will not rebuild the matrix casting sidewalls of Monotype display and Giant matrices, or rounded matrices if they have been destroyed through previous use. Dented, damaged or nicked matrices cannot be restored and from 1% to 5% of Monotype copper-plated matrices will not respond to the process.

Proofs for photomechanical processing and direct printing from slugs and type in commercial work, it is said, require less makeready and the type prints better with softer ink and rollers.

It is pointed out that voids and minute pits on the surface of much type are caused by tiny pockets of trapped air created in the casting process. Thus when the casting surface of a matrix is treated by the Jernt process the air is broken up by the slightly peened or roughened surface during the cast to cause the air to dissipate into tiny pockets well below the printing surface of slug or type.

While discussing the Jernt peening process, Impruv-a-Mat Corporation employs another method for removing the cause of hairlines in matrices. This consists of a method and equipment for lapping the sides of matrices automatically. This process is intended for removing the cause of hairlines between letter characters on line slugs. Mr. Jernt states that approx. 2% of matrices with damaged side walls will not respond to the lapping treatment. In most cases, only an infinitesimal amount of matrix stock is removed when lapping matrices. (Perhaps of the order of less than 0.0001 in.). The lapping process permits close fitting together of all matrices in a line, thus preventing the casting of fins or hairlines between the letter characters.

It was stated at the ITCA meeting that in the case of linecasting machine molds, the molds are first treated to an electrolyzing process in which microscopic particles of chromium fill in the pores of the casting surfaces. After having been subjected to the filling-in process, the molds are surface treated by the Jernt Peening method described above. In addition the Jernt peening process hardens the mold surfaces and makes them impervious to leading up. Mr. Jernt said that in a test in the Chicago area a Comet Linotype operated by Teletypesetter keyboard operating unit running 11 lines per min. has produced over half a million slugs during the past several months without a stuck slug or leading of the mold.

The image surface of photoengraving zinc and copper plate stock can be treated by the Jernt Metl-Seal process. The idea is that the engraver can lift a sheet out of the case as received from the manufacturer and immediately apply cold or hot top enamel without the usual scrubbing with water and pumice. As in the case of type and linecasting machine matrices treated by the Jernt process, the resultant photoengraving likewise permits excellent printing results and reduces press makeready time.

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Paper Properties

(Continued from Page 39)

considerably under printing impression. Ordinary Newsprint must have considerable "cushion" or compressibility to take the impression on Newsprint printing equipment. This is provided in a large part by the groundwood fiber content. This is typical of papers made from groundwood fiber. More expensive papers with less compressibility would, therefore, not do as good a job in this instance. Likewise, Rotogravure printing demands compressible papers which are readily forced into the individual wells of the etched cylinder so as to remove the ink. Coated Papers, while much smoother than Uncoated, still require compressibility of the body stock for good printing. Excessive calendering pressure to obtain a high finish on paper will greatly reduce the remaining cushion in the sheet and for this reason care must be given not to obtain finish, that is, gloss and smoothness, to the complete sacrifice of cushion in the sheet. This will be discussed more fully in the succeeding article. Printing Bristols are easier to print typographically than Index Bristols since the former are constructed primarily for that purpose, whereas the latter are a harder Bistol, being designed for rigidity, erasure and continual handling.

Cushion in paper is generally not nearly as important in Offset-Lithography as it is in Letterpress and Gravure printing since cushion is provided in most part by the rubber blanket. However, certain papers with a rough surface, such as Antique or Eggshell and others with minute surface irregularities, do require some cushion to help the blanket establish complete contact with the minute low areas or valleys in the paper surface.

Generally, Book Papers are made with as much cushion as is consistent with other required properties for printing, whereas in the case of others, the extent of cushion is more dependent upon the desired physical characteristics or functional requirements.

(To Be Continued)

ABC of Offset

(Continued from Page 54)

stuff. Many of these colors are aniline dyes and because of their poisonous nature, should be treated with extreme caution.

Because many operators acquire the bad habit of placing the charged brush into their mouths, the danger of aniline poisoning is ever present. From a safety standpoint, all dye and stain used in photographic work should be non-poisonous food colors.

Next to the dangers of cyanic, chromic and other toxic poisonings, aniline poisoning is an industrial hazard, which, to date, is given little consideration. It is insidious and long range in its action and effects.

Stains and Emulsions

It will be remembered from previous discussion that photographic emulsions are made of the purest gelatines possible to produce. Even purer than those used for food purposes.

If it is possible to color these food gelatines with vegetable colors, there is no good reason why the photographic gelatine emulsions could not be dyed or stained with the same type of safe food colorings.

Other suitable dyes for photographic emulsions are those used for decorating Easter eggs. These, too, are reputed to be pure food dyestuffs and can be used to any degree of concentration on negative or positive emulsions.

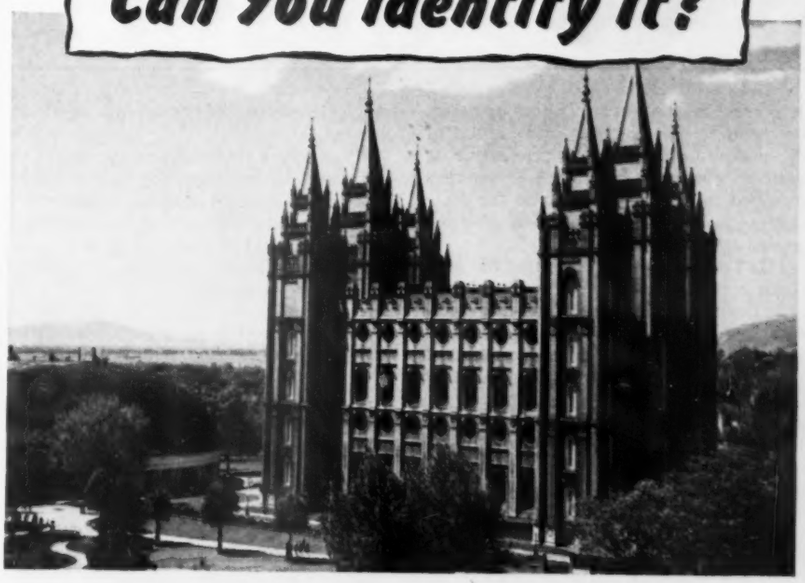
Photographic tinting colors such as those sold in book form, although more costly, can be used advantageously in color correction.

Condition of Emulsions

Existing temperatures, seasons of the year, degree of relative humidity and the varied chemical processing of the negative or positive (plates or films), present many difficulties affecting the efficient application of stains and opaques.

The condition of the processed emulsion is not always apparent to the artist

Can You Identify It?



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(Mormon Temple)

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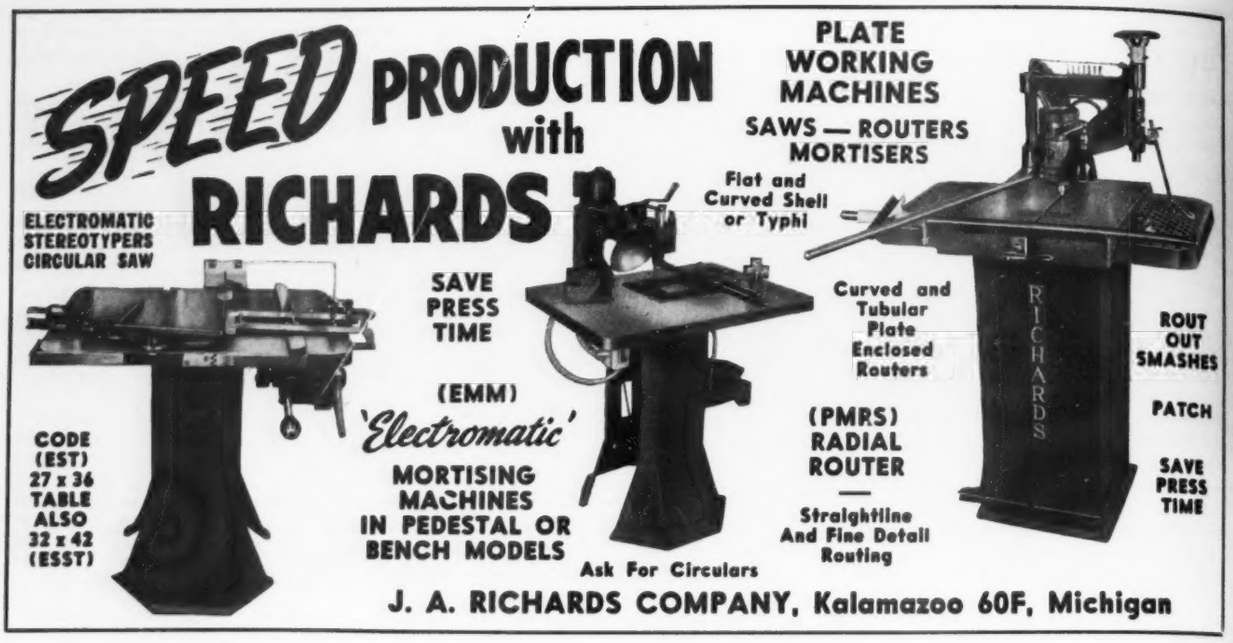
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or correctionist until he begins his work on the material. Lacking information of the procedure by which the negative or positive was processed, he is frequently stumped in trying to overcome the difficulties encountered. Some of these difficulties are as follows:

(1) Too hard, brittle, inflexible and water repellant; (2) Tendency to greasiness, overall or spotty; (3) Too soft, gelatine not hardened sufficiently, softens and is easily dislodged from support under slight friction; (4) Powdery image, silver is not held in close suspension by the gelatine, easily removed by slight friction when wet or dry; (5) Chemical discolorations, streaks (static spark and abrasion), chemical transferrals and stains; (6) Pin holes, uneven coating and many other disconcerting defects and difficulties most generally charged to dust, dirt and poor housekeeping.

The skilled correctionist, having at one time or another experienced one or all of the foregoing difficulties, realizes that each film or plate should be tested before actual work is started. This is good practice for learning what procedure must be followed to efficiently meet the existing difficulty.

Testing is Important

Using a small wad of cotton, the skilled operator will flood clean water over a section of the plate or film outside of the work area. If the flooded area holds the water and remains uniformly wet, it can be assumed that the plate or film was properly and correctly processed.

Should the water run off the plate without leaving trace of uniform wetting, it can be assumed the emulsion is too hard and brittle for staining.

If the flood of water separates into puddles, leaving spotty areas or dry islands, there is an indication of greasiness.

When, under mildly applied friction with the cotton wad, the emulsion leaves its support, it is evident the coating has been improperly processed, permitting the gelatine to swell to a point of liquification.

A powdery silver image can be quickly detected by rubbing the dry emulsion with a dampened wad of cotton (most operators use saliva). If the cotton is blackened and the rubbed area becomes more transparent, evidence of improper processing is assured.

Attempting to stain or opaque an emulsion of this nature can only lead to considerable trouble. The brush will deposit stain while simultaneously removing powdery silver. Applied opaque, while drying, will reticulate and alligator, and will not cover evenly or uniformly.

Some Correctives

Hard, Brittle Emulsions:

Soak negative in a 5 per cent ammonia solution for 5 min., then wash in clear running water bath for 30 min. Blot and put in rack to dry.

Greasy Negatives:

Soak negative in 5 per cent ammonia solution for 5 min., rinse in running water bath for 10 min. Place in fresh hypo bath for 3 min., return to fresh running water bath and wash for 20 min. Blot and dry in rack.

An alternative to the above is as follows:

Soak the negative in luke warm water, then treat in the following prepared solution, according to given proportions.

Dissolve potassium
Permanganate..... 4 oz.
in Water.....64 oz.

In a tray, cover the negative with a few ounces of the permanganate solution. When the pinkish color fades, presence of hypo is indicated. Pour off the bleached solution and recover the negative with fresh solution. Continue this treatment with quick and rapid changing until the permanganate solutions retains its pink color. Then wash the negative in running water bath for 20 min., blot and dry in rack. Change solutions as soon as the color fades. Prolonged treatment in faded solution may cause brown stains.

Soft Negative:

Wet the negative in a running water bath for about 1 or 2 min., then harden for 3 or 4 min. in the following solution:

Formalin (37 per cent formaldehyde solution).....1¼ dr.
Sodium carbonate, dessicated.....37 grs.
Water.....16 oz.

After treatment wash in a running water bath for 20 min., then dry before further treatment.

Powdery Image Negatives:

Flow the negative with the following:

Gelatine solution.....1 pt.
Formaldehyde solution.....1 tbs.
Ammonia water (stronger)....1 tsp.

Coating greasy negatives with this solution will frequently overcome the greasiness. When coated, it is advisable to let the negative lay flat until coating is dry.

Chemical Discolorations:

These difficulties are not too frequent in emulsions on glass dry plates, found most often in emulsions on photographic films. (See Correcting Halftone Negatives, to follow.)

Pin holes in the emulsions and uneven coatings:

These and many other disconcerting defects can be charged to dust, dirt and poor housekeeping in the darkroom, and to poor manufacturing at the source.

Pin holes in the continuous tone negative emulsion can not be effectively stained because the glass support is bared. Such pin holes should be carefully filled with a gelatine jell to which has been added some hardening agent such as chrome alum or formaldehyde. When set and dried, the damaged area can be stained efficiently.

Other Suggestions

Because of the nature and condition of the emulsion it is frequently necessary to

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Shoes *can* be repaired, yet never made good as new. But through Imperial's Analysis Service and Imperial's Plus Metal Service *any type metal can be restored to its original specifications.*

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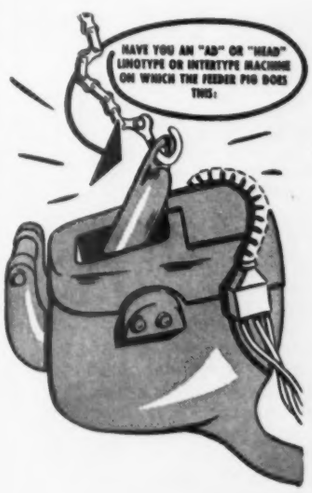

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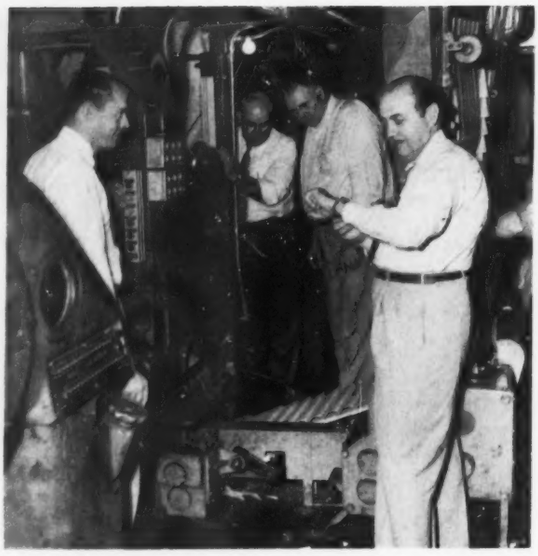

New Press Trial Run — This picture was taken during the first trial run of the new high-speed Goss anti-friction press recently installed by the Des Moines (Ia.) *Register* and *Tribune*. Officiating, left to right, are David Kruidenier, jr., Asst. Business Mgr.; Tom Moore, Pressroom Supt.; Herman Fessenmeyer, Maintenance Supt.; and William Dorriss, Mechanical Supt. The press may run at a maximum speed of 50,000 32-page papers per hour, but the normal speed is 42,000 papers. Installation of this press, in line with those installed in 1949, provides more four-color pages for advertisers and for larger papers with four-color pages. Its installation means, too, that the production per hour of Des Moines *Sunday Register* press runs will be increased and that more color pages will be available for the Iowa *Farm* and *Home Register, The Sunday Register's* monthly farm and home magazine.

use a mild ammonia, acetic acid or some other mordant with the selected dye to effect proper coloration of the area being stained.

Although viewed with disgust by genteel people and frowned upon by sanitationists, spittle (containing natural chemicals) used extensively by the photographic retoucher and color correctionist. By its nature and chemical composition, saliva will neutralize certain stubborn, greaselike, spotty areas in an emulsion. When applied with a wad of cotton to such areas, staining can be accomplished without too much effort.

Applying the Stain

Stain applied to a continuous tone negative or positive must serve a specific purpose (corrective intensification). Like the paper stump blending of tones when pencilling a matte type plate, the stain must be blended and graduated in degrees of concentration from the clear transparency of the image to complete opacity or drop out in the highlight areas and portions not wanted in the reproduction.

Because of the danger of hard lines resulting from the application of a staining solution to a dry emulsion, the area being stained should be kept moist and dampened so that all edges of the brush stroke can be properly blended.

Some operators prepare different dilutions of the selected dye in the wells of a water color pallette ranging from very weak to heavy concentrated solutions. Other operators adjust the dye strength while they work by varying the amount of water taken up in the brush with a proportionate amount of dye concentrate. The strength of the dye mix is then tested on either the glass table top or a glass plate before applying the dye to the negative.

The brush must be so charged with dye solution that the bristles will retain and remove any surplus puddles remaining at the end of the brush stroke. Spotted staining will result if the puddles are not removed immediately.

No specific procedure can be set down for the corrective stainer. He must develop his own technique of working. It is only through close attention, constant practice and observation of results that he can acquire the necessary skill and productive speed so necessary to quality production.

Having completed all of the corrective

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ST. PETERSBURG PRINTING CO., INC.

September 10, 1953

"Dear Mr. Baum:

This is to thank you and your good associates for the prompt shipment of our new **BAUMFOLDER**. This came in time to handle a very important large job whereas the *element of time* in the bindery played an *important factor*.

Mr. Wilmot, the foreman of the bindery, set up the machine and folded the job in record time, in fact *it reduced the folding time by 200%*.

Needless to say, we are *delighted* with the *production* we are obtaining from your Folder.

Again thanking all of you and with kindest personal regards, I remain

Very truly yours,

BEN GRANGER"

RUSSELL ERNEST BAUM, INC.
615 Chestnut Street, Philadelphia (6) Pa.

Mr. Ben Granger, Vice President & General Manager of St. Petersburg Printing Co., Inc. writes September 10th, 1953:

- The St. Petersburg *Times* recently wrote: "At the reception given by the St. Petersburg Printing Company recently the Rambler (Archie Dunlap, Dean of Florida Newsmen) could not help but compare conditions locally today and just a few years ago. St. Petersburg Printing Company, with its *big plant* and *modern equipment*, is turning out work that formerly could be done only in some Northern city. It used to be that anybody in St. Petersburg who wanted a big printing job done had to send it away but now jobs come to the local company from a wide area of the South.
- Telephone directories for St. Petersburg and other West Coast cities are done in this plant. Few plants in the South are able to handle such big jobs. Printing and binding the St. Petersburg telephone directory is in itself a huge task. However, *remarkable machines that appear to be able to think make it possible to turn out the directory quicker than most persons would believe possible*. The new directory is now being prepared and will be ready for distribution January 1."

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staining to his satisfaction, the artist or the opaquer will proceed to opaque the negative as described under pencilling.

Lest We Forget

It is well to remember that additional chemical processing of stained negatives is a difficult procedure, because the stain is not water or chemical repellant. Hence, reduction or chemical intensification of the silver image must be fully accomplished before staining is begun.

(*To Be Continued*)

NEWS ITEMS

L. M. Klinedinst, former Vice Pres. and Director of The Timken Roller Bearing Co., died in Canton, O., August 10, of a heart ailment. Starting with the company in 1905, Mr. Klinedinst rose to the position of vice president in charge of sales and director, which position he held when he retired in 1948.

Photography was the topic of a recent well attended program staged by the San Francisco Club of Printing House Craftsmen. Speaker at the meeting was William B. High, Instructor in Photography, Laney Trade and Technical Institute, Oakland, Calif.

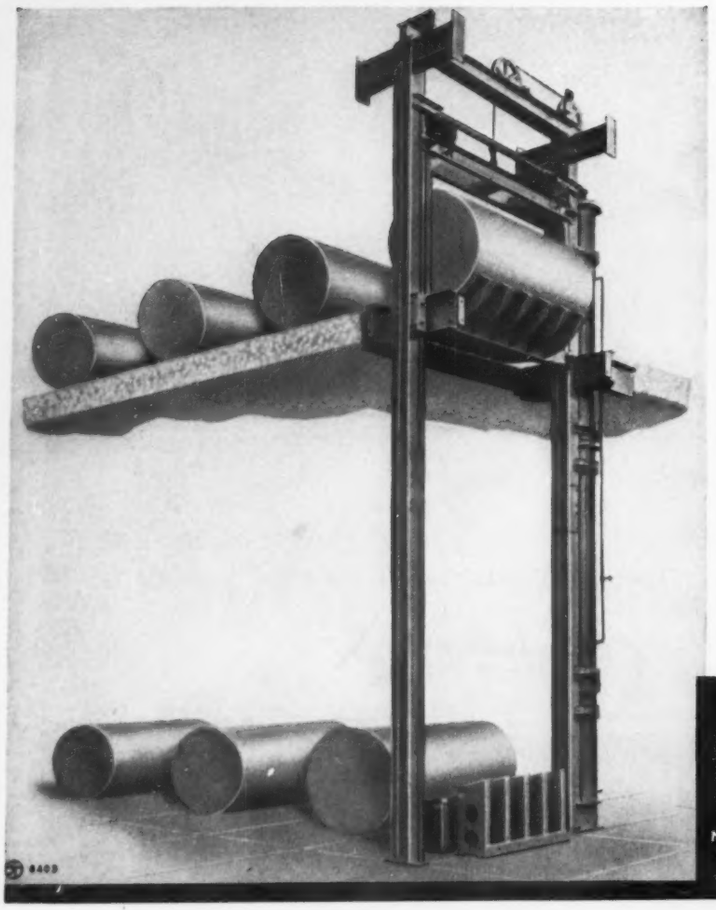
William F. Gutwein, formerly Personnel Director of Fawcett-Dearing Printing Co., Louisville, Ky., has formed a separate company. The company will be known as William F. Gutwein, Inc., 417 Martin-Brown Bldg., Louisville 1, Ky.

Phone No. is WAbash 0962. Gutwein and his associates will specialize in personnel advisory services to companies throughout the United States. Services included will be consultation with management on union difficulties, negotiations, employee relations programs, labor-management communications, public relations and human relations speeches.

Harris-Seybold Co. has issued a 28 page annual report for the fiscal year ending June 30, 1953. Among its contents are five full-page illustrations printed by offset in full color showing the scores of uses for printing in everyday living. The cover, printed on two-sided Krom Kote, shows examples of printing arranged to form the silhouette likeness of a medium size Harris offset press. The report shows an increase of more than $6 million in sales over fiscal 1952. Another section of the report is devoted to illustrations and descriptions of presses and Graphic Arts equipment manufactured and distributed by Harris-Seybold.

To Open N. Y. Office—nuArc Co., Inc., manufacturers of motor drives and automatic arc lamps and other products for the Graphic Arts industry, will open a sales and service office in New York, N. Y., January 1954. The main function of this office will be to assist nuArc dealers in the Eastern section of the country and provide parts and service for nuArc equipment. No direct sales will be made from the new office. Location, phone numbers and personnel will be announced later. nuArc Co. main offices and plant are located at 824 S. Western Ave., Chicago 12.

3M Emergency Service—Emergency 16-hr. service by Minnesota Mining and Mfg. Co. helped make possible publication of the Sunday (Aug. 9) edition of the Waterloo (Ia.) *Daily Courier* after fire recently disabled press units, according to Robert J. McCoy, Editor and Publisher. McCoy said: "We were able to put out a Sunday edition with three units after an emergency call to 3M in St. Paul, Minn. The call for the press blankets went to 3M at 8:30 Saturday morning. At noon members of the emergency production



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Gifford-Wood also manufactures electric roll-handling units for raising and lowering, as well as complete engineered conveying systems for paper stock, stereos, mail sacks, other printing plant items. For specialized help in solving your problem, write today, without obligation, to:

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WHEN YOU THINK OF MATERIALS HANDLING THINK OF GIFFORD WOOD

team were in the 3M plant at Hastings, approximately 30 miles from St. Paul. The *Daily Courier* needed ten blankets, type .093. They had to be cut to size 34½ in. by 48 in. from master sheets of Spherekote measuring 36 in. by 48 in. A special 8 in. canvas flap had to be sewn on each end of each blanket. At 4 p. m. the blankets were finished, loaded in the car of Robert Alexander, 3M's Sales Correspondent, who drove to Waterloo. At 9:30 p. m. Saturday the *Daily Courier* presses were turning out the Sunday edition.

William J. Stevens has been appointed Manager of Eastern Offset Sales for Miehle Printing Press and Mfg. Co., with offices in New York. Norman T. Steed has been named Manager of Miehle's New York office at 219 E. 44th St. Both appointments were announced by Carlton Mellic, Vice Pres. in Charge of Sales. Steed has been affiliated with the Miehle company since 1915, and was manager of the Boston office in 1951. Stevens joined Miehle in 1950. Previously he was executive secretary of the National Assoc. of

STEVENS

STEED

Photo-Lithographers and plant superintendent of Edward Stern Co., Philadelphia.

Illness has forced the retirement of Ralph G. Wilson, Treasurer of The Challenge Machinery Co. He has been associated with the Challenge organization since 1901. Successor to Wilson will be Walter F. Winterhalter, company comptroller, who has also been elected to the Board of Directors. Robert Gould was named Asst. Secretary.

WILSON

WINTERHALTER

GOULD

William H. Hamel has been appointed St. Louis Branch Mgr. of Fuchs & Lang Mfg. Co., Div. of Sun Chemical Corp. The announcement was made by A. E. Loveland, Manager of F & L's Midwest Div. of Sun Chemical. Hamel became associated with Sun Chemical in 1937, having started with the Geo. H. Morrill Co. Div. in New York. He has served Fuchs & Lang as superintendent for several years.

Glenn C. Compton has resigned from the staff of Printing Industry of America to accept a special assignment with the Advisory Council of the Senate Post Office and Civil Service Committee. The Council, which is made up of industrial, labor and civic leaders, and representative large users of the various mail services, is assisting the Senate Post Office Committee in conducting a comprehensive study of the postal system, with special emphasis on the relation of postal rates to the national welfare and public service aspects of the system. As a member of the Senate Post Office Committee staff, Compton will be special assistant to the Advisory Council.

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Willard K. Joyce has been appointed Boston Office Mgr. of Miehle Printing Press and Mfg. Co., according to an announcement by Carlton Mellick, Vice Pres. in Charge of Sales. Joyce joined Miehle in 1948 after graduating from Brown University. He succeeds Norman T. Steed, who recently became manager of Miehle's New York office.

JOYCE

Members of the San Francisco Club of Printing House Craftsmen will long remember the August meeting. They learned that the daily paper they took for granted has some unique twists and angles in its production even to experienced printers. A panel of experts pooled their knowledge. Serving at chairman was Fred Gross, Mechanical Supt. of the *Chronicle*. Panel members consisted of Harry Davidson, Mechanical Supt. of the *Call-Bulletin;* John Crebassa, Pressman on Hearst's *Pictorial Review;* Rodney Ford, Intertype Corporation; Opie Tucker, Teletypesetter; and Renee Leach of Mergenthaler Linotype. Worth Seymour, Editor of *Pacific Printer and Publisher,* acted as co-chairman.

Election of Robert L. Westbee as a Vice President of Minnesota Mining & Mfg. Co. was recently announced by the board of directors. Westbee will head 3M's newly-created electrical products division.

William G. Forster has been named Manager of Sales of Herbick and Held Printing Co., Pittsburgh, Pa. Forster served as assistant to Robert Sternberger, President of Hearst Enterprises, Inc., from 1937 to 1944. He also was eastern manager for the George H. Morrill Div., Sun Chemical Corp. Forster is a graduate of Carnegie Institute of Technology.

The Dexter Folder Co. of Pearl River, N. Y., which for some years has had a contract with The de Florez Co., Inc., of New York, N. Y., for engineering and research services, on Aug. 21 acquired a substantial stock interest in that company. It is expected that a closer interchange of engineering and research skill will result, to the mutual benefit of both companies and their customers. The offices and facilities of The de Florez Co. will continue in New York, N. Y., at 116 East 30th St.

Vandercook Opens New York Showrooms—A sectional view of the new and enlarged demonstration room recently opened by Vandercook & Sons, Inc., at 323 E. 44th St., New York, N. Y. Called the Quality Control Room, it was planned for the purpose of demonstrating the methods and materials involved in pre-press operations. Another section is devoted to up-to-date methods in precision makeup and lockup. The new eastern branch is fully air conditioned and comprises 5000 sq. ft. Roy H. Sandvik, Eastern Mgr., is in charge.

George E. Hogan, formerly Superintendent of the Stamats Pub. Co., Cedar Rapids, Ia., has been made Manager of the Monumental Printing Co., in Baltimore, Md. Hogan has been serving as Chairman of the Publications Commission, Intl. Assoc. of Printing House Craftsmen. He is a Past President of the Cedar Rapids Craftsmen's Club and served as Eighth District Deputy Representative.

Joseph Wertheimer, President of Turner Printing Machinery, Inc., has announced there will be exhibits of Graphic Arts equipment handled by the Turner firm at its Chicago and Cleveland offices. The Cleveland office, located at 2630 Payne Ave., will exhibit machinery from October 14 to 17. The exhibit at the Chicago office, 732 Sherman St., will be held October 21 to 24. Exhibit hours will be from 9 a.m. to 9 p.m. All members of the Graphic Arts industry are invited to attend. Included in the showings will be the Viking Automatic Cylinder Press, Viking Automatic Cutter and Creases, Elless Automatic Stream Feeder and Pacemaker Tipper and Semi-Automatic Collator.

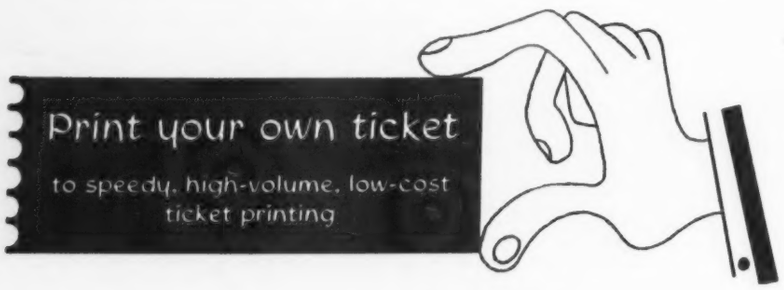
Gene Waterloo, according to announcement by President Albert R. Kreck of General Plate Makers Supply Co., has been made a member of that company's technical staff. Waterloo is one of the country's foremost photoengraving technical advisors. He will assist in General's research and development work on new processes and products. Kreck has also announced construction of a new one story building in which will be located a laboratory. The building, it is expected, will be ready for occupancy during the latter part of October. In addition to many supplies handled by General, the company manufactures the All-Electric Photoengraving Etching Machine.

TAUBER

As of Sept. 1, State University of New York, Institute of Applied Arts and Sciences at Brooklyn, will be known as the New York City Technical Institute. The practice of awarding degrees and certificates for completion of courses of study will be continued. Dr. Otto Klitgord, President of City Tech, said that to make he current program more meaningful to the industry, an expanded program of credit and non-credit courses will be offered. In the field of management, two courses are open to top level craftsmen and executives: (1) Graphic Arts Methods and Motion Study, and (2) Plant Layout and Design. Both courses will be conducted by Alfred Tauber (Williamsburg Pub. Co.), industrial engineer and productioneer. In other printing production areas, courses will be given in letterpress, lithography, gravure, silk screen, xerography, duplication processes, and the near-print techniques. Free catalogue and course listing may be obtained from Extension Division, N. Y. City Technical Institute, 300 Pearl Street, Brooklyn 1, N. Y.

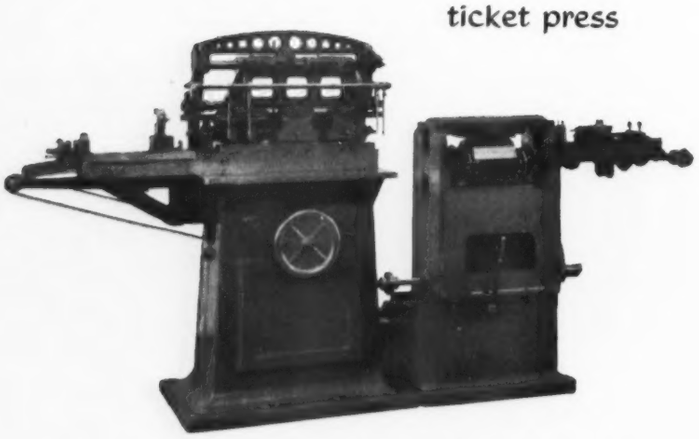
S. Charles Norris has been named Manager of Advertising and Sales Promotion for the Mergenthaler Linotype Co. according to an announcement by J. W. Reid, Vice Pres. in Charge of Sales. Norris formerly was associated with the Charles Bruning Co., Chicago, as advertising manager. He is a graduate of Ohio State University and has had experience on newspapers.

Bradley Returns to ATF for Visit—Will H. Bradley recently returned to American Typefounders after a 50 year absence to inspect type ornaments he designed for that company. Each piece is 24 pt. by 24 pt. and the pieces can be arranged to form various combinations. Bradley, who is now 85 years old, designed type and promotional literature for ATF more than 50 years ago. He is



Rolca

ticket press



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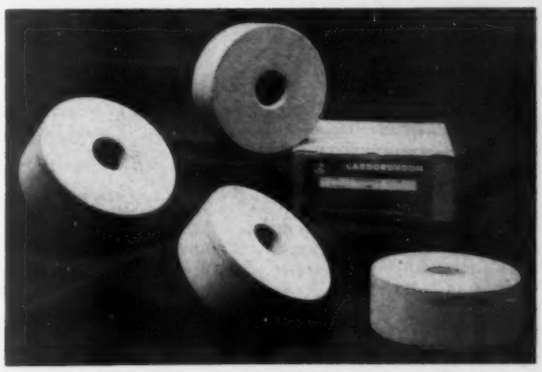

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shown at left here pointing to a page he designed, while E. G. Williams, ATF President, and S. L. Watts (standing), ATF Type Merchandising Mgr., look on.

(*Continued on Page 80*)

Recent Equipment Reports

Miehle Installations

The Miehle Printing Press & Mfg. Co. has announced a number of recent-month equipment installations. These are as follows:

No. 29 Offset Press—Winthrop Printing & Offset Co., Boston; New England Blue Print Paper Co., Springfield, Mass.; Service Plus Press, Providence, R. I.; Milton Bradley Co., Springfield, Mass.; McNaughton Litho Co., Inc., New York, N. Y.; Dart Press, New York, N. Y.; Seaboard Litho Co., New York, N. Y.; Universal Lithographers, Inc., Baltimore, Md.; Lyman Printing Company, Battle Creek, Mich.; Joseph S. Gagnier, Inc., Detroit; Gelb Printing & Litho Co., Detroit; The Singer Litho Press Co., Detroit; Coons Printing Co., Ferndale, Mich.; Wainscott Printing Co., Detroit; The Gibson Art Co., Cincinnati, O. (2); Stevenson Photo Color Separation Co., Cincinnati, O.; General Telephone Directory Co., Des Plaines, Ill. (2); Photopress, Inc., Chicago; Runkle-Thompson-Kovats, Inc., Chicago; Fine Arts Lithographing Co., Inc., Kansas City, Mo.; Neal, Stratford & Kerr, Inc., San Francisco, Calif.; Mike Roberts Color Productions, Berkeley, Calif.; Koltun Bros. Lithographers, Los Angeles; Central Lithographing Co., Los Angeles; Griffin Patterson Co., Inc., Glendale, Calif.; Kerr Lithographers, Inc., Goleta, Calif.; Stewart Bowie, Los Angeles; Wm. S. Hensen, Inc., Dallas, Tex.; Harvey Press, New Orleans, La.; Intermountain Publishing Co., Ogden, Utah.

No. 46 S.C. Letterpress—Guy P. Gannett Publ. Inc., Augusta, Me.; Quadri Color Company, Brooklyn; Lebanon Paper Box Co., Lebanon, Pa., (T.C.); Wilson Paper Box Co., Richmond, Va.; American Coating Mills, Chicago.

Stripping Device — Berles Carton Co., Inc., Paterson, N. J.; Bartgis Bros. Company, Ilchester, Md.; Kellogg Co., Battle Creek, Mich.; Los Angeles Paper Box & Board Mills, Los Angeles.

No. 70 Cutter & Creaser—New Haven Pulp & Board Co., New Haven, Conn.; Container Corp. of America, Port Providence, Pa.; Lord Baltimore Press, Inc., Baltimore, Md.; American Greeting Corp., Cleveland; Kellogg Co., Battle Creek, Mich.; Marathon Corp., Wausau, Wis.; Ace Carbon Corp., Chicago; Fibreboard Products, Inc., Portland, Ore.

No. 41 S.C. Letterpress—American Banknote Co., Bronx, N. Y. (2); Eldredge Company, Brooklyn; Steel Publications, Inc., Pittsburgh, Pa.; Security Banknote Co., Inc., Philadelphia; Beacon Press, Inc., Richmond, Va.; Arrow Press, Milwaukee, Wis.; R. A. Levin, Chicago; I. S. Berlin Press, Chicago; Capper Printing Co., Topeka, Kas.; Arts & Crafts Press, San Diego, Calif.; University of Texas, Austin, Tex.

No. 56 S.C. Letterpress — The Corse Press, Inc., Sandy Creek, N. Y.; Chilton Company, Philadelphia.; W. B. Saunders Co., Philadelphia.; Waverly Press, Inc., Baltimore, Md.; A. L. Garber Co., Ashland, O.; Gulf Publishing Co., Houston, Tex.; Oil & Gas Journal, Tulsa, Okla.

No. 61 S.C. Offset Press—Eureka Specialty Printing, Scranton, Pa.; McCandlish Litho Corp., Philadelphia; Hillison & Etten Co., Chicago; R. R. Donnelley & Sons, Chicago; Ace Carton Corp., Chicago.

No. 76 T.C. Rotary—The Wm. Byrd Press, Inc., Richmond, Va.; Evans-Winter-Hebb, Inc., Detroit, 1 each T.C. and 3/C.; I. S. Berlin Press, 1 each S.C. and T.C.; Chicago; Veritone Company, Chicago; Harrison & Smith Co., Minneapolis, Minn., 4/C Offset; Fibreboard Products, Inc., Stockton, Calif. 5/C Rotary.

No. 36 Offset — Master Cartons, Inc., San Gabriel, Calif.; Fakler Printing Co., Milwaukee, Wis.; American Lithographing Co., St. Louis, Mo.

Rosback Installations

Recent installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: Auto-Stitchers—Harty Press Inc., New Haven, Conn. (installed by American Type Founders); Kokomo Lithographing Co., Kokomo, Ind. (installed by Kalamazoo Printing Machinery Co.); Robert Rose, New York, N. Y. (installed by E. P. Lawson Co.); Waterloo (N. Y.) *Observer* (installed by Alen Dietch); Byrum Lithographing Co., Columbus, O. (installed by American Type Founders); Transcript Co., Norman, Okla. (installed by Western Newspaper Union); Tulsa Lithographing Co., Tulsa, Okla. (installed by Gane Bros. & Lane, Inc.); Print-O-Lith, Inc., Tulsa,

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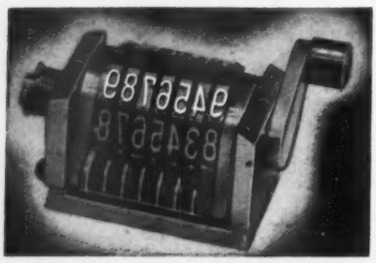

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Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.

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Okla. (installed by American Type Founders); Terry Bros., Printers, Wichita Falls, Texas, (installed by Western Newspaper Supply Corp.); and Koch Bros., Milwaukee, Wis. (installed by Printers Roller Co.). Gang Stitchers — John F. Chesney, DeKalb, Ill. (installed by American Type Founders); Tri-State Ruling & Binding Co., Memphis, Tenn. (installed by Western Newspaper Union); and Cumberland Presbyterian Board of Publication, Memphis, Tenn. (installed by Western Newspaper Union). Pony Vari-Speed Rotary Perforators — McWilliams Stationery Co., Texarkana, Ark. (installed by Western Newspaper Union); Reliable Bindery, Washington, D. C. (installed by George R. Keller, Inc.); A.B.C. Printers Inc., Chicago (installed by Economy Printers); and Hanover Bank, New York, N. Y. (installed by E. P. Lawson Co.). Special Six Punching Machines—Midstate Offset Printing Corp., Syracuse, N. Y. (installed by American Type Founders); and Triangle Lithographing Print Co., New York, N. Y. (installed by Irving Nissenbaum, Inc.) "Twenty-two Special" Slot Rotary Perforators — Gordon (Ark.) *Times* (installed by Roach Printers' Supply Co.); Great Western Savings & Loan Assoc., Los Angeles (installed by Addressograph-Multigraph Corp.); Wray (Col.) *Gazette* (installed by A. E. Heinsohn); Shorb Printing Co., Caldwell, Id. (installed by Western Newspaper Union); A.B.C. Finishing Co., Baltimore, Md. (installed by John H. Burke & Co.); City of Springfield, Springfield, O. (installed by Addressograph-Multigraph Corp.); Glancy Printing Co., Convoy, O. (installed by Kalamazoo Printing Machinery Co.); Plankenhorn Stationery Co., Williamsport, Pa. (installed by American Type Founders); Gale Commercial Printing Co., Ogden, Utah (installed by A. E. Heinsohn); and College Bindery, College Place, Wash. (installed by Charles Zipser Co.)

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. – Frank J. Schreiber, Exec. Secy., 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf. – 1954 Conf., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 7, 8, 9, 10. Chairman of the Committee, William E. Gibbons, Production Mgr., Portland (Ore.) *Journal;* Mgr.,ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—Raymond Tiffany, General Counsel, 25 W. 43rd St., New York 18, N. Y.

Fifth District Craftsmen's Conf. – 1954 Conf., William Penn Hotel, Pittsburgh, Pa., June 11, 12. Pres., Robert Edgar, Pres., Neyhart Printing Co., 244 Blvd. of the Allies, Pittsburgh, Pa.; Secy-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, Ohio.

Graphic Arts Trade Assoc. Executives – Pres., Robert Hostetter, Printing Industry of Pittsburgh, 3124 Jenkins Arcade Bldg., Pitsburgh 22, Pa.

Gravure Technical Assoc. – 1954 Annual Meeting, Hotel Biltmore, New York, N.Y., Feb. 3, 4, 5. Pres. John E. Hazel, New York *Daily News*, 700 Pacific St., Brooklyn

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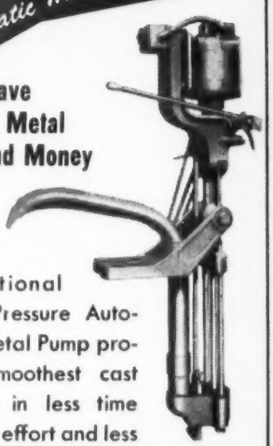

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17; Secy.-Treas., Frank Sportelli, International Color Gravure, 39 W. 60th St., New York 23, N. Y.

Great Lakes Newspaper Mechanical Conf. —1954 Conf., Claypool Hotel, Indianapolis, Ind., Jan. 10,11,12. Pres., Horace Parker, Press and Stereotype Fm., Richmond (Ind.) *Palladium-Item;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press;* Chairman Mfrs. and Suppliers Committee, Joseph W. Kaercher, Linotype Representative, 5311 Broadway, Indianapolis, Ind.

Illinois Newspaper Mechanical Conf. — Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers—1953 Conv., Statler Hotel, Detroit, Sept., 23,24,25. Pres., Walter C. Dohm, Norman-Dohm O'Flaherty Co., Inc., 228 E. 45th St., New York, N. Y.; A. P. Schloegel, Exec. Secy., 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1954 conv., Bellevue-Stratford Hotel, Philadelphia, August dates to be announced later. Pres., Howard N. King, The Maple Press, York, Pa.; Exec. Secy., Pearl E. Oldt, Rm. 806, Transportation Bldg., 307 E. Fourth St. Cincinnati 2, O.; Convention Chairman, Ray Miller, 300 Valley View Rd., Media, Pa.

Intl. Graphic Arts Education Assoc.—1954 Conf., University of Colorado Campus, Boulder, Colo., early in July, exact dates to be announced later. Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel S. Burt, 719 Fifteenth St., N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1954 Conv., Hotel LaSalle, Chicago, Sept. 23, 24, 25. Pres., Harold L. McGirr, Monotype and Linotype Composition Corp., 461 Eighth Ave., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—Secy.-Treas., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Sec'y., William Bray, Missouri Press Assoc., Walter William Hall, Columbia, Mo.

Lithographers National Assoc. — 1954 Conv., The Greenbrier, White Sulphur Springs, W. Va., June 8,9,10. Pres., William H. Walters, President, United States Printing and Lithograph Co., Old Country & Glen Cove Rds., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf.—1954 Conf., Penn Harris Hotel, Harrisburg, Pa., Mar. 18, 19, 20. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir.,

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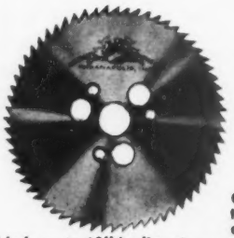

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National Assoc. of Litho Clubs — 1954 Conv., Hotel Biltmore, New York, N. Y., May 7,8. Pres., Andrew Balika, Supt., Copifyer Lithograph Corp., 1771 E. 24th St., Cleveland; Exec. Secy., Sol D'Allesandro, Supt., Horn & Norris, Inc., 2729 Prospect Ave., Cleveland.

National Assoc. of Photo-Lithographers—1953 Convention, Sheraton Hotel, Chicago, Oct. 28,29,30,31. Pres., A. J. Fay, 75 Varrick St., New York, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc.—Pres., Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Congress, Printing and Publishing Section Meeting — Conrad Hilton Hotel, Chicago, Oct. 20, 21. R. L. Forney, Gen. Secy., National Safety Council, 425 N. Michigan Ave., Chicago, Ill.

New England Mechanical Conf. — 1953 Conf., Hotel Statler, Boston, Oct. 17,18. Pres., Charles W. Noonan, Pressroom Supt., Providence (R. I.) *Journal-Bulletin;* Secy.-Treas., Walter C. Crighton, Comp. Room Supt. New London (Conn.) *Day.*

Northwest Mechanical Conf.—1954 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 27,28, and March 1. Pres., John R. Copeland, Production Mgr., Minneapolis (Minn.) *Star* and *Tribune;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf.—Secy. for North, Edw. N. Conley, Color Press Fm., San Francisco *Chronicle.* Secy. for the South, Fred J. Moyer, Los Angeles *Daily News.*

Printing Industry of America—James R. Brackett, General Mgr., 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — Second Technical Conf. on Color Photography and Color Separation, Hotel Statler, Los Angeles, Nov. 30 and Dec. 1, 1953; 1954 Membership Meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. Pres., Edward J. Triebe, Kingsport Press, Kingsport, Tenn.; Managing Director, Bernard J. Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Assoc.—1953 Conv., Statler Hotel, New York, N. Y., Nov. 1,2, 3,4. Pres., Joseph Grossman, Masta Displays, Inc., 230 W. 17th St., New York 11, N. Y.; Secy., Dan Novak, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1954 Conf. tentatively set for Aug. 23, 24, Montgomery, Ala. Exact dates and hotel to be announced later. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers Group to be announced later.

SNPA (Western Div.) Mechanical Conf.—1954 Conf., Hotel Marion, Little Rock, Ark., March 7, 8, 9. Chairman, Palmer Black, Mechanical Supt. Amarillo (Tex.) *Globe-Times;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, Karl L. Ponath, Mgr., Mergenthaler Linotype Co., 514 Browder St., Dallas 1, Texas.

Technical Assoc. of the Graphic Arts—1954 Conv., Schroeder Hotel, Milwaukee, Wis., May 10, 11. Pres., Richard F. Shaffer, Pratt Institute, 215 Ryerson St., Brooklyn 5, N. Y. Secy.-Treas., Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5; Convention Chairman, J. L. Roser, Milwaukee 1, Wis.

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News Notes

(Continued from Page 74)

The Clark Equipment Co., Buchanan, Mich., has established a $2000 scholarship fund at the Illinois Institute of Technology for students majoring in materials handling. Dr. Ralph G. Owens, Dean of Engineering, made the announcement. The Eugene B. Clark annual scholarship is in honor of the founder of Clark Equipment. The grant will cover tuition costs for the student's final two years in school.

Two application engineers have been added to the sales staff of Reliance Electric & Engineering Co., it has been announced by E. E. Helm, Sales Vice Pres. Garvin L. Jones is assigned to Reliance's Newark, N. J., Office, 535 High St., reporting to E. H. Koontz, Branch Mgr. Thomas J. Lisy goes to Pittsburgh, Pa., making his headquarters at 1030 Park Bldg. He reports to C. V. Gregory, Pittsburgh District Mgr.

HUDOME

Joseph J. Hudome, jr., has been appointed Sales Representative for Harris-Seybold Co. in its Philadelphia District, according to C. A. Loefgren, Asst. General Sales Mgr. Hudome, under the direction of Philadelphia District Manager Ralph H. Randall, will cover the territory of Eastern Pennsylvania, Southern New Jersey, Eastern West Virginia and the entire states of Maryland, Delaware and Virginia. He will make his headquarters at 33 S. 20th St., Philadelphia 3, Pa.

John J. Shand, Southeastern Regional Sales Mgr. of Clark Equipment Co., has moved his headquarters from Norfolk, Va., to 161 Spring St. Bldg., Atlanta, Ga., according to an announcement by Walter E. Schirmer, Vice Pres. of Clark.

O'BRIEN

Cornelius A. O'Brien has been named Sales Mgr. of Macbeth Arc Co., according to an announcement by Iredell Eachus, Macbeth President. O'Brien, who formerly was commercial sales manager of Robertson, Photo-Mechanix, Inc., has been active in the Graphic Arts industry for more than 15 years. He will direct the marketing of Macbeth equipment.

Robert B. Takewell, Vice President in charge of the Carbon Black Division, J. M. Huber Corp., has been appointed Executive Vice President of the corporation, and A. Z. Hahn has been named Vice President of the Carbon Black Div., it is announced by H. W. Huber, President. Takewell has been with the Huber Corporation for more than 25 years. He will be in charge of and coordinate the programs of the Carbon Black, Clay, Ink and Chemical Divisions. Takewell and Hahn will continue their offices at Borger, Tex.

D. W. Schulkind, President of E. P. Lawson Co., Inc., looking on as W. W. Brown, Executive Vice Pres. and General Mgr. of Western Newspaper Union signs the contract for Western Newspaper Union to become exclusive dealer for the E. P. Lawson Co. in the States of Louisiana, Oklahoma, Arkansas and all of Texas, except for the extreme Western portion.

The G. J. Aigner Co. has announced the sale of its Sheet Protector and Protective Holder Div. to the Chicago Desk Pad Co. of Chicago. According to the announcement, the move was made by the Aigner firm to enable it to specialize in the index and index tabbing business.

L. E. Blackwell, jr., Sales Application Engineer of Reliance Electric and Engineering Co., has been appointed to the Charlotte (N. C.) sales offices located at 1280 Liberty Life Bldg. The announcement was made jointly by E. E. Helm, Sales Vice Pres., and E. G. Orahood, Southeastern District Mgr. Blackwell will report to Frank W. Leitner, Charlotte Branch Mgr. for Reliance.

HUIE

Enlargement of facilities and expansion of services for the Boston Agency of Merganthaler Linotype Co. were announced recently by J. W. Reid, Vice Pres. of Sales. Jack C. Huie, formerly manager of Linotype's New York Agency, has been named Manager of the expanded Boston Agency. The Boston office is located at 844 Park Square Bldg. Recently developed Linotype machines will be on display and an invitation to visit the facilities has been extended by Huie to the Graphic Arts industry.

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P. E. E. REPRESENTATIVES

WILLIAM L. OSBORN, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Manager, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

GEORGE GELL, Central District Manager, 1276 West Third St., Cleveland 13, O. Phone CHerry 1-6645.

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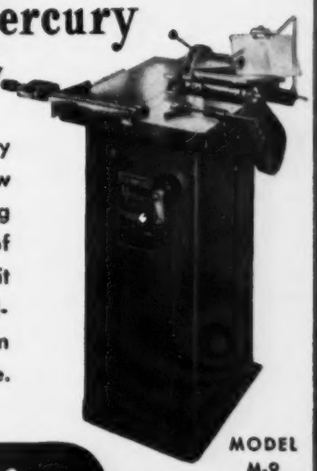

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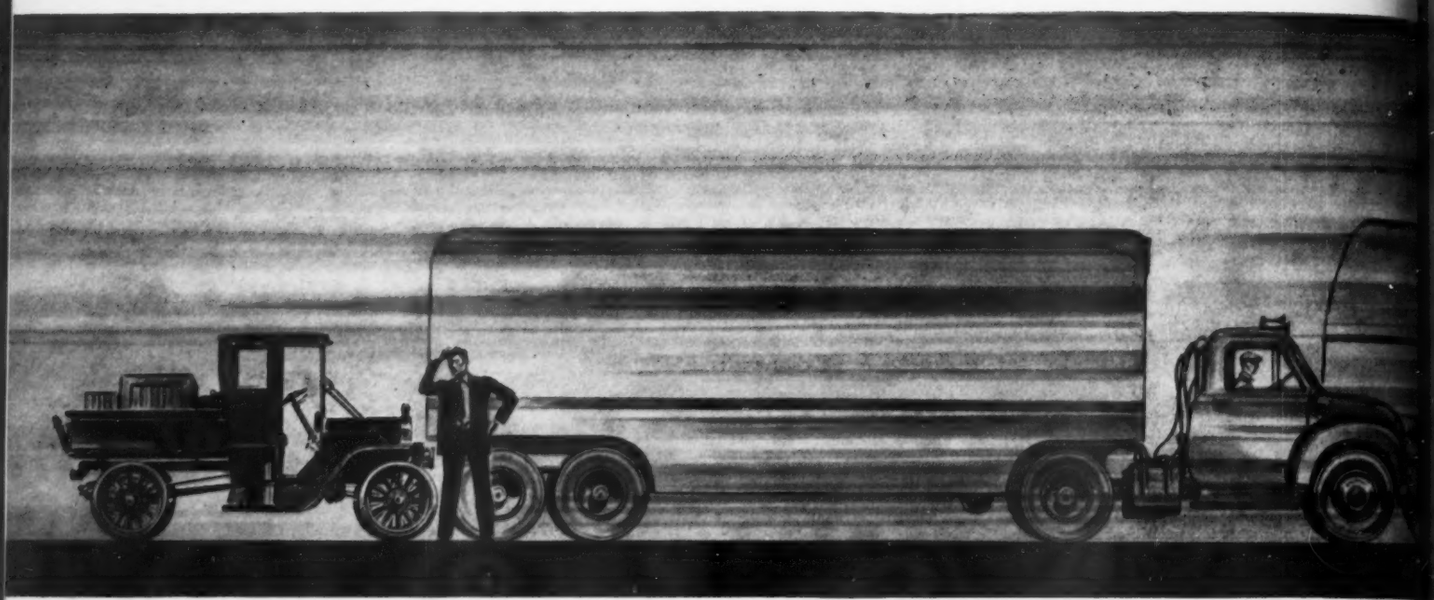

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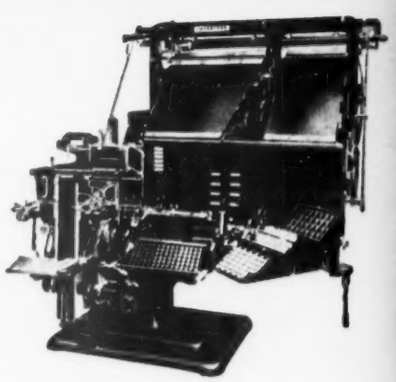

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